

# 2017 Commercial Building Code

## **Wisconsin Amendments and Significant Changes**

Department of Safety and Professional Services

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# Draft Code Package

- This presentation reflects the most recent draft language and is not based on an adopted code package. Watch the Department of Safety and Professional Services Website for updated information regarding the code package.

# Rulemaking

Internet Explorer browser window showing the Wisconsin Department of Safety and Professional Services (DPS) website.

Address bar: <http://dps.wi.gov/Home>

Page Title: Department Of Safety & Pr...

Navigation Menu:

- Boards and Councils
- Licenses/Permits/Registrations
- Online Services
- Plan Review
- Complaints & Inspections
- Other Services











Featured Content:

**Uniform Commercial Building Code Update**

2013 Act 270 established the Wisconsin Uniform Commercial Building Code, while allowing municipalities to grandfather fire detection, prevention, and suppression ordinances.

[Click here](#) for more information and a list of grandfathered ordinances.

Grid of Links:

-  [Prescription Drug Monitoring Program \(PDMP\)](#)
-  [Industry Services \(Safety & Buildings\)](#)
-  [License Renewal](#)
-  [Application Forms](#)
-  [License Look-Up](#)
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Mission Statement:

*The mission of the Department of Safety and Professional Services is to promote economic growth and stability while protecting the citizens of Wisconsin as designated by statute.*

Footer:

DSPS Home | About Us | Contact Us | Site Map | Wisconsin.Gov

Taskbar: Windows 7, 4:21 PM, 4/14/2015

# Rulemaking

Screenshot of the Wisconsin Department of Safety and Professional Services (DSPS) website, specifically the Boards and Councils section.

The browser address bar shows <http://dps.wi.gov/Boards-Councils>.

The website header includes the Wisconsin Department of Safety and Professional Services logo and a search bar. The navigation menu lists: Boards and Councils, Licenses/Permits/Registrations, Online Services, Plan Review, Complaints & Inspections, and Other Services.

The main content area is titled **BOARDS AND COUNCILS** and features eight links, each with an icon:

- [Administrative Rules and Statutes](#) (Icon: Books labeled RULES and REGULATIONS)
- [Agendas](#) (Icon: Calendar)
- [Apply to Serve on a Board or Council](#) (Icon: Handshake)
- [Board Member Access](#) (Icon: Person at a laptop)
- [Board and Council Listing](#) (Icon: Meeting room)
- [Calendar](#) (Icon: Calendar)
- [Meeting Minutes](#) (Icon: Hand writing on a document)
- [Request Agenda Item](#) (Icon: Hand holding a folder)

A large blue arrow points to the [Request Agenda Item](#) link.

The footer contains the text: DSPS Home | About Us | Contact Us | Site Map | Wisconsin.Gov

The taskbar at the bottom shows the Windows logo, Internet Explorer, and various application icons. The system clock indicates 4:24 PM on 4/14/2015.

# Submit Items for Consideration

[Boards and Councils](#)[Licenses/Permits/Registrations](#)[Online Services](#)[Plan Review](#)[Complaints & Inspections](#)[Other Services](#)

## DSPS PUBLIC BOARD AGENDA ITEM

Please use this form to submit an item for consideration at a board or council meeting. Please visit our [Board and Council Listing](#) page for information on professions regulated by each board. You may be asked to appear at the meeting to present and explain your request. Before submitting your request, please consult your [Profession Specific Codebook](#) which will contain the answer to most questions. Please note, neither the Department nor the Boards can respond to the following issues: potential or ongoing litigation, billing, business advice, employer / employee disputes, legal opinions, and questions involving professional judgment or discretion.

### FILL OUT THIS FORM

• Board:

• First Name:

• Last Name:

Association/Organization:

• Address Line 1:

Address Line 2:

• City:

• State:

• Zip:

Phone Number:

• Email:

• Subject:

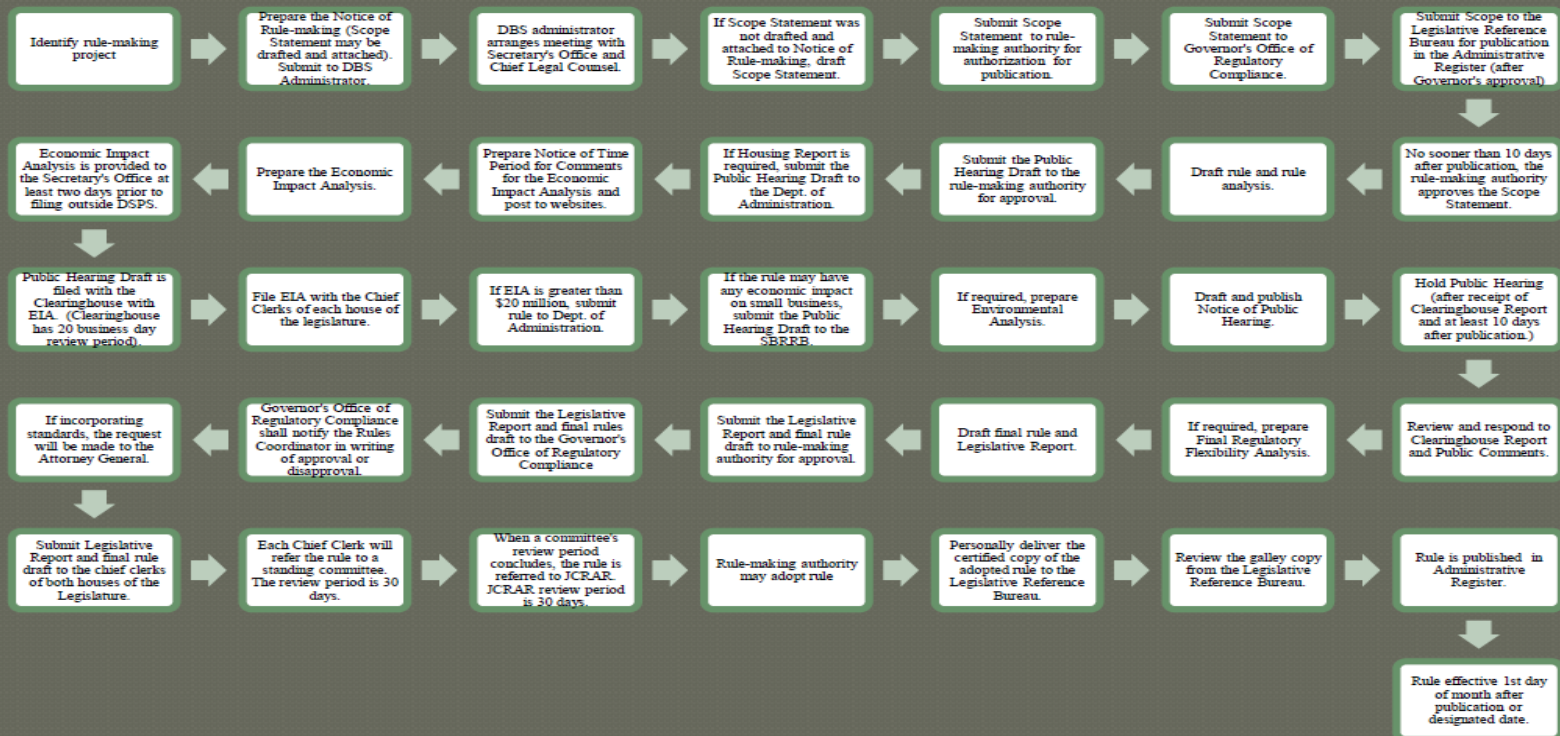
• Message:

# Code Update Process

- Advisory committee needs to be assembled.
  - Members may need to be from specific group, i.e. Inspectors, Contractors, A/E or material suppliers. Goal of a balanced committee of stakeholders.
- Committee review of new standard(s)
  - Typically monthly meetings to review sections and chapters of the standards. Several codes reference multiple standards. IBC has numerous secondary references that need review.
- Statutory rulemaking process 12-18 months.
- Publication and implementation date maybe delayed for seasonal reasons.

# Rulemaking Process

## Its Complicated



# Rulemaking Packages(Completed)

- SPS 305 - Certification to Inspect Fire Detection, Prevention and Suppression Devices
- SPS 320-325 - Uniform Dwelling Code Updates, Wall Bracing and Deck packages
- SPS 321 - Natural Light in Rooms over Garages
- SPS 322 - Crawl Space Ventilation



# Rulemaking Projects(In Progress)

- SPS 316 - 2017 NEC adoption
- SPS 330 - Fire Department Health and Safety Update
- SPS 327 - Camping Units
- SPS 320 - Electronic Notification of Inspection Results
- SPS 360 - Erosion Control, Update Package
- SPS 360-366 - Commercial Building Code,
  - Update to 2015 ICC Suite(IBC,IMC, IEBC, IEEC,IFGC)
- SPS 381-387 - POWTS and Wisconsin Fund review and update
- SPS 307, 308 - Explosives, Fireworks, Mines, Pits and Quarries – Updates
- SPS 381-387 and 390 - Plumbing, Update
- SPS 390 - Swimming Pools

# Additional Rulemaking

- Additional rulemaking that DSPS is responsible for includes:
- A/E, Chiropractic, Cosmetology, Dentistry, Medical Examining, Nursing, Optometry, Pharmacy, Psychology, Real Estate and other Boards and Councils.

# SPS 361

## IBC Chapter 1

### Scope and Administration

# Petition For Variance

- SPS 303.03(2) Petition for Variance forms **no longer** requires the form to be notarized.
- All other requirements remain the same.



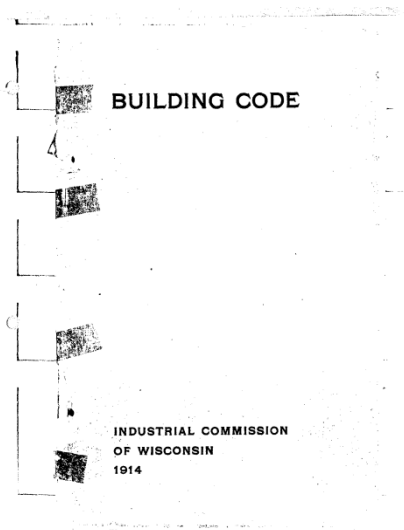
# Reference to Code

- Code has been defined by chs. SPS 361 to 366.
- Formerly “this code”.

# New Language on Ordinances

- SPS 361.03(5)

## Uniform Commercial Code



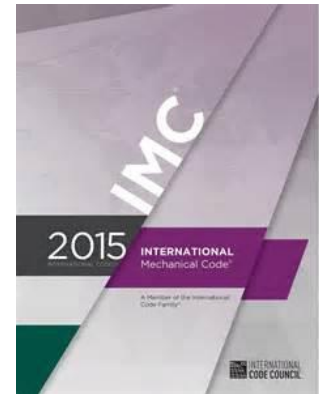
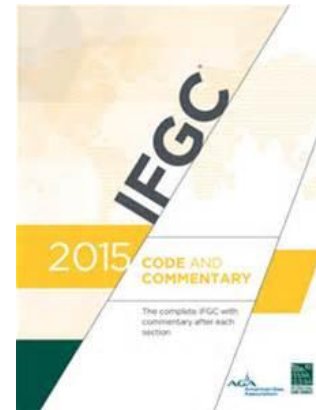
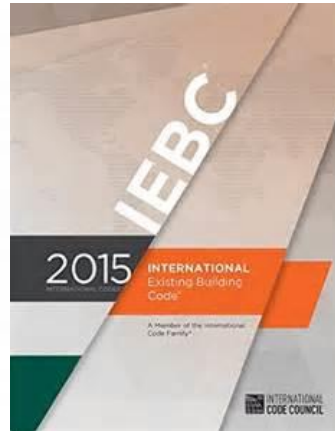
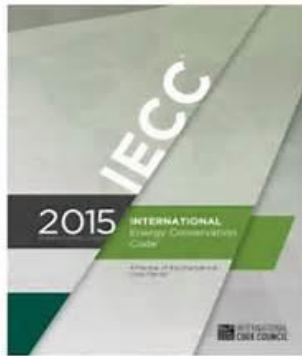
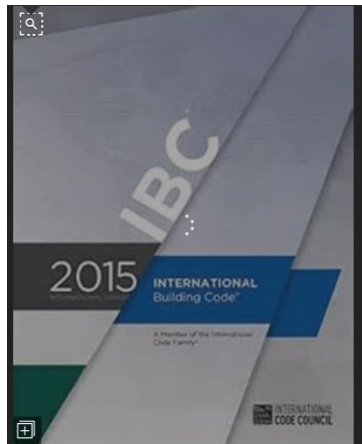
- Local Ordinance
  - No more restrictive
  - No less restrictive
  - Applies to technical standards
- Local pre-existing ordinances approved by the Department are valid

# Manufactured Housing

- SPS 361.04 has definition for Compliance Assurance program.

# International Code Adoptions

- SPS 361.04(5) to (11)
- Adopts 2015 IBC, IEBC, IECC, IFGC and IMC





# 2015 International Fire Code

- SPS 361.03(14) adopts only portions for some design and construction criteria, construction related and use and operation provisions.
- Sections are specifically listed in this section.



# Christmas Trees

- SPS 361.03(5)
- No ordinance related to fire safety prohibiting the placement of a Christmas Tree in a church allowed



# SPS 361 Exempt Buildings from Plan Review

SPS 361.30(1)(b)

1. Single story buildings & structures less than 1,000 SF located on individual parcels or lease sites at state fair park.
2. Fire service drill towers used for hands on training reflecting emergency conditions.

# Total Building Volume Definition

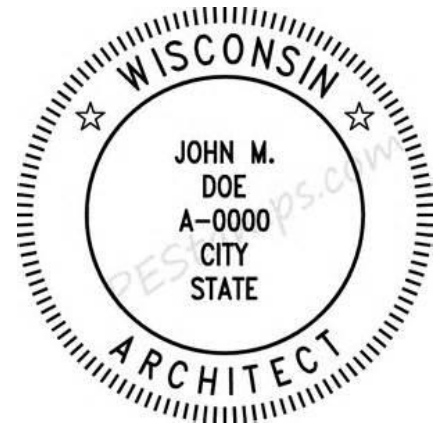
- SPS 361.30 (5) Calculating Total Building Volume



# Total Building Volume

CALCULATING TOTAL BUILDING VOLUME. Total building volume shall be determined by calculating the cubic footage of space enclosed **within the outer surfaces of the building's outside or enclosing walls and the space between the upper most surface of the roof and the underside of the lowest floor of a building.** The outer surface of structures or portions of structures without enclosed walls shall be established by projecting vertical planes from the outer surface of exterior supports or columns. The total building volume shall be calculated on structures with interior supports by establishing a vertical plane projected from the farthest roof projection. Roof overhangs less than 24" from a vertical wall shall not be included in the calculation. Total building volume shall include the cubic footage of space in dormers, penthouses, vaults, pits, enclosed porches, and other enclosed appendages to the building.

# Supervising Professional



## New Language

SPS 361.40(3)(b) If Supervising Professional withdraws from a construction project, **the owner of the building or structure shall retain a new supervising professional within 30 days** and provide the authority that issued plan approval the name and Wisconsin registration number...

# Modular Manufacturing Dwellings

- Subchapter V, SPS 361.45
- New code subchapter applying to factory building residential structures.
- Require Wisconsin Insignia
- Requires plans and specifications.

# Alternate Standards and Model Codes

- SPS 361.51(8) An owner or a supervising professional may use a more recent edition of a referenced model building code if:
- Identified in plan documents
- Used in its entirety (no WI amendments are applicable)
- (c) Does not permit municipality to use a different standard.



# Agents

- SPS 361.60(2)(c) Report requirement changed from monthly to quarterly for agents.

# SPS 361

## Alterations

### SPS 361.60(5)

Clarification consistent with State Statutes made  
for delegated municipalities

(c)3. An alteration of a space in a building  
containing less than 100,000 cubic feet of total  
volume.

# SPS 362.0202

## IBC Chapter 2

### Definitions

# Definitions Relocated

- Old SPS Language
- Definitions for:
  - Neutral Plan for deep foundation
  - Self storage building
  - Automatic sprinkler system
  - Commercial motor Vehicle
  - Fire area
  - Fire Separation Distance
  - Fuel Burning Appliance
  - Immediately dangerous to life and health
  - Live/work unit
  - Sealed combustion Appliance
- New SPS Language
- Now located in SPS 362.0202

# New Definition for Commercial Vehicle

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- Not Defined



# New Definition for Commercial Vehicle

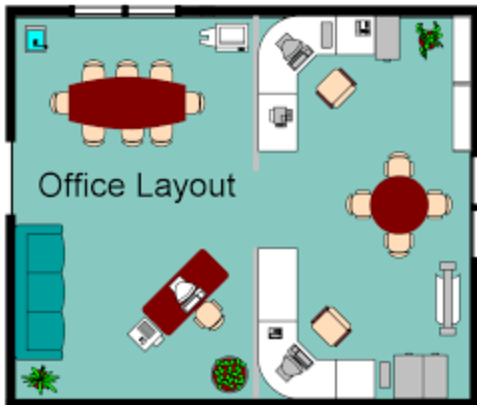
- New SPS Language SPS 362.0202
- Semitrailer Tractors
- Trucks having a gross vehicle weight over **26,000** pounds
- Passenger vans or buses with a seating capacity of 16 or more.
- New IBC Language 202
- Vehicles with a gross vehicle weight of ~~10,000~~ pounds or more.
- Vehicle is designated to transport 16 or more people.

# IBC Chapter 3

## Use and Occupancy Classifications

# B Occupancy

- Old SPS Language
- None
- 2009 IBC Language
- 304.1 List Group B occupancy types including but not limited to banks, barber shops, outpatient clinics, post office and education above 12<sup>th</sup> grade.





# B Occupancy

- New SPS Language
- None
- 2015 IBC Language
  - Modifies Group B occupancy to include food processing establishments and commercial kitchens not more than 2,500 sf that are not associated with dining facilities and clarifies the Group B classification for training and skill development by addressing the age of the facility occupants, the occupant load limits when the facility is used for assembly purposes, and the types of permitted uses

# IBC 306.3

- SPS 362.0306
  - Cheese Factory classified as **low hazard** F-2 occupancies.



# Institutional Group I-1

- Old SPS Language
- None
- 2009 IBC Language
- All I-1 occupancy types are grouped into the same classification.



# Institutional Group I-1 and I-2

- 2015 IBC Language 308.3
- Now I-1 & I-2 are grouped into two conditions.
- Condition 1 are buildings where people receiving care, **without any assistance**, are capable of responding to an emergency situation.
- Condition 2 are buildings where people **require limited verbal or physical assistance** while responding to an emergency situation.



# IBC Chapter 4

## Special Detailed Requirements Based on Use and Occupancy

# Storm Shelters

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- IBC section 423 requires that if a storm shelter is built it must comply with ICC 500. But does not require a storm shelter to be installed in any occupancy.



# Storm Shelters

- SPS 362.0423 New construction requirements for Storm Shelters are not included.



*Not required for new “E”  
Occupancies in  
Wisconsin*

# High Rise 403.6.1

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- In buildings with an occupied floor more than 120 feet above the lowest level of fire department access, a minimum of **one** fire service elevator shall be provided in accordance with section 3007.





# High Rise 403.6.1



- 2015 IBC Language
- In buildings with an occupied floor more than 120 feet above the lowest level of fire department access, **no fewer than two fire service elevators**, or all elevators, whichever is less, shall be provided in accordance with section 3007.

# Private Garages Group U

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- 406.1.2. Group U garages are permitted to be **3,000** sf when conditions are met. Where more than one 3,000 sf garage is in the same building they need to be separated by a fire wall.

# Private Garages Group U

- New SPS Language
- None
- 2015 IBC Language
- 406.3.1 Limits group U garages to **1,000** sf maximum but only requires a one hour fire barrier or horizontal assembly to separate multiple group U garages in the same building.



# Air-Craft Related Occupancies

- 2015 IBC 412 Air traffic control towers have their own height, area, exiting, elevator and stairway requirements.
- SPS 362.0412 Language change for heating equipment does not need fire rated enclosure if 10 ft.. above the wings or 8 ft. above the floor in other areas.



# Aircraft Hanger Floor Drain

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- 412.4.3 Floor drains shall discharge through a oil separator or an outside vented sump.



Note: An oil separator requires a plumbing plan review per SPS Table 382.20-2 #3

# Aircraft Hanger Floor Drain

- New SPS Language
- 362.412(2) Substitute the following wording for the requirements, but not the exception in IBC section 412.4.3. Floor surface. **Floors shall be graded and drained to meet the requirements of SPS 382.**
- 2015 IBC
- 412.4.3 Floor drains shall discharge through a oil separator or an outside vented sump.

# Children Play Structure

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- IBC 402.12 require children playground structures installed within a covered mall to comply with IBC section 402.12.1 through 402.12.4



# Children Play Structure

- New SPS Language
- None
- 2015 IBC Language
- The 2015 IBC created a new section 424 that regulates play structures that exceed 10 ft. in height & 150 sf.
- Requirements include materials used, fire protection, separation and area limitations.





# IBC Chapter 5

## General Building Heights and Areas

# Mezzanine Openness

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- Exception 2 to IBC section 505.4 allowed a mezzanine to be enclosed when the mezzanine was served by two means of egress with one of the means of egress having direct access to an exit.



# Mezzanine Openness

- New SPS Language
- 2015 IBC Language
- Exception 2 to 505.2.3 now allows a mezzanine to be enclosed as long as the mezzanine is served by at least two exits or access to two exits.



# Basements in Unlimited Area Building

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- IBC section 507 allows an unlimited area building when meeting the requirements of this section. **The 2009 code commentary stated that a basement should not be permitted within an unlimited area building.**

# Basements in Unlimited Area Building

- New SPS Language
- None
- 2015 IBC Language
- IBC section 507.1 now specifically allows **a basement not more than one story below grade** to be part of an unlimited area building.

# IBC Table 509 Incidental Use

SPS 362.0509 Incinerator room does not include crematories.

# IBC Chapter 6

## Types of Construction

# Wood Construction

- IBC 602.4 recognizes **cross laminated timber**,  
sawn or glue-lam plank within construction  
requirements of Type IV.





# IBC 603.1

- IBC 603.1 Allowable combustible materials
- New exception #26.

Combustible materials allowed in wall construction of freezer or coolers less than 1,000 SF, lined on both sides w/non-combustible and protected with sprinkler system.

# IBC Chapter 7

## Fire and Smoke Protection Features

# Changes to IBC Chapter 7

## Chapter Reorganization

<u>Sections</u>	<u>2009 IBC</u>	<u>2015 IBC</u>
• General	701	701
• ⋮	⋮	⋮
• Fire Barriers	707	707
• Fire Partitions	709	708
• Smoke Barriers	710	709
• Smoke Partitions	711	710
• Horizontal Assemblies	712	711
• Vertical Openings	—	712
• Shaft Enclosures	708	713
• Penetrations	713	714
• ⋮	⋮	⋮
• Calculated Fire Resistance	721	722

# Changes to IBC Chapter 7

## General

- 2009 IBC Language
- (IBC 701 – General)
- 2015 IBC Language
  - *701.2 Multiple use fire assemblies*  
*(new)*
    - *Fire assemblies that serve multiple purposes in a building shall comply with all of the requirements that are applicable for each of the individual fire assemblies.*

# Changes to IBC Chapter 7

## Fire-resistance Ratings

- 2009 IBC Language
- (None)
- 2015 IBC Language
  - ***IBC 703.2.4 Supplemental features (new)***
  - *Where materials, systems or devices that have not been tested as part of a fire-resistance-rated assembly are incorporated into the building element, component or assembly, **sufficient data shall be made available to the building official to show that the required fire-resistance rating is not reduced.***

# Changes to IBC Chapter 7

## Fire-resistance Ratings

- 2009 IBC Language
- (IBC 703.3 Alternative methods for determining fire resistance)
  - Method added.
- 2015 IBC Language
- **IBC 703.3 Methods for determining fire resistance.**
  - The application of any of the methods listed in this section shall be based on the fire exposure and acceptance criteria specified in ASTM E119 or UL 263. The required *fire resistance* of a building element, component or assembly shall be permitted to be established by any of the following methods or procedures:
    - 1. Fire-resistance designs documented in approved sources.
    - 2. Prescriptive designs of fire-resistance-rated building elements, components or assemblies as prescribed in Section 721.
    - 3. Calculations in accordance with Section 722.
    - 4. Engineering analysis based on a comparison of building element, component or assemblies designs having *fire-resistance ratings* as determined by the test procedures set forth in ASTM E119 or UL 263.
    - 5. Alternative protection methods as allowed by Section 104.11.
    - **(new) 6. Fire-resistance designs certified by an approved agency.**

# Changes to IBC Chapter 7

## Fire-resistance-rated Glazing

- 2009 IBC Language
- (IBC 703.5 – Fire-resistance-rated glazing)
  - Fire-resistance-rated glazing, when tested in accordance with ASTM E 119 or UL 263 and complying with the requirements of Section 707, shall be permitted. Fire-resistance-rated glazing shall bear a *label* or other identification showing the name of the manufacturer, the test standard and the identifier "W-XXX," where the "XXX" is the *fire-resistance rating* in minutes. Such *label* or identification shall be issued by an agency and shall be permanently affixed to the glazing.
- 2015 IBC Language
  - **IBC 703.6 Fire-resistance-rated glazing**  
**(changed & moved)**
    - *Fire-resistance-rated glazing, when tested in accordance with ASTM E119 or UL 263 and complying with the requirements of Section 707, shall be permitted. Fire-resistance-rated glazing shall bear a label marked in accordance with Table 716.3 issued by an agency and shall be permanently identified on the glazing.*

# UNDERSTANDING IBC LABEL REQUIREMENTS FOR FIRE-RATED GLASS KEY TERMS & SAMPLE LABELS

## DESCRIPTION OF LOCATION

- D** indicates DOORS
- O** indicates OPENING  
(windows, sidelites, transoms, etc.)
- W** indicates WALLS (glass meets ASTM E119;  
providing a barrier to radiant heat transfer)

## HOSE STREAM TEST

- H** indicates glazing meets the HOSE stream test  
requirements of the test standard (required for  
45 minutes and above)

## TEMPERATURE RISE

- T** indicates glazing meets TEMPERATURE  
rise criteria

## MINUTES

- XX** symbolizes fire protection rating  
period in minutes



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## DOOR LABEL

**D** - indicates the glazing shall be used in a  
door assembly and the glazing meets the fire  
resistance requirements of the test standard

**XX** - symbolizes fire protection rating period,  
in minutes (minimum 20 minutes)



**H** - indicates glazing meets the hose stream  
test requirements of the test standard  
(required for 45 minutes and above)

**T** - indicates glazing meets temperature rise  
criteria



## WINDOW LABEL

**OH** - indicates the glazing meets both the fire  
resistance and required hose stream test  
requirements for an opening (window, sidelite,  
transom, etc.)

**XX** - symbolizes fire protection rating period in  
minutes (minimum 45 minutes)



## WALL LABEL

**XX** - symbolizes fire resistance rating period in  
minutes (minimum 60 minutes)

**W** - indicates walls (glass  
meets ASTM E119; providing  
a barrier to radiant heat  
transfer)





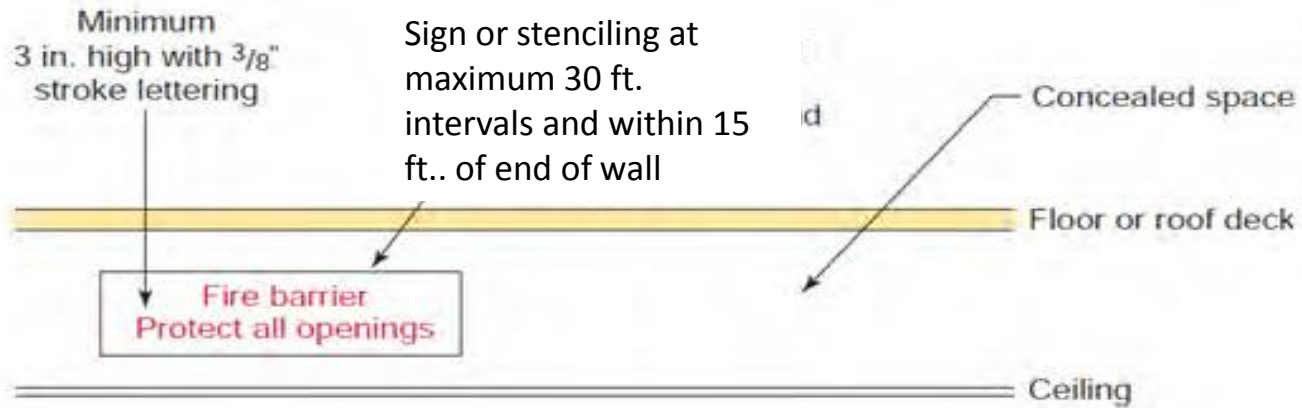
# Changes to IBC Chapter 7

## Marking and Identification

- **2009 IBC Language**
  - (IBC 703.6 Marking and identification)
    - 703.6 Marking and identification.** *Fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions or any other wall required to have protected openings or penetrations shall be effectively and permanently identified with signs or stenciling. Such identification shall:*
      - 1. Be located in accessible concealed floor, floor-ceiling or *attic* spaces;
      - 2. Be repeated at intervals not exceeding 30 feet (914 mm) ...
      - 3. Include lettering not less **than 0.5 inch** (12.7 mm) in height, incorporating the suggested wording: "FIRE AND/OR SMOKE BARRIER-PROTECT ALL OPENINGS," or other wording.
- **2015 IBC Language**
  - **IBC 703.7 Marking and identification** *(Modifies the size and location of identifying markings required on vertical fire assemblies)*
    - **Where there is an accessible concealed floor,** floor-ceiling or attic space, fire walls, fire barriers, fire partitions, smoke barriers and smoke partitions or any other wall required to have protected openings or penetrations shall be effectively and permanently identified with signs or stenciling in the concealed space. Such identification shall:
      - 1. Be located **within 15 feet (4572 mm) of the end of each wall** and at intervals not exceeding **30 feet** (9144 mm) measured horizontally along the wall or partition.
      - 2. Include lettering not less than **3 inches (76 mm) in height with a minimum 3/8-inch** (9.5 mm) stroke in a contrasting color incorporating the suggested wording, "FIRE AND/OR SMOKE BARRIER—PROTECT ALL OPENINGS," or other wording.

# Changes to IBC Chapter 7

## Marking and Identification



Minimum 3 in.  
high with 3/8"  
stroke lettering



# Changes to IBC Chapter 7

## Protection of Secondary Members

- 2009 IBC Language
- (IBC 704.4 Protection of secondary members)
  - Secondary members that are required to have a *fire-resistance rating* shall be protected by individual encasement protection, by the membrane or ceiling of a *horizontal assembly* in accordance with Section 712, or by a combination of both.
- 2015 IBC Language
- **IBC 704.4 Protection of *secondary* members (changed)**
  - *Secondary members that are required to have protection to achieve a fire resistance rating shall be protected by individual encasement protection.*
- **IBC 704.4.1 Light-frame construction (new)**
  - *Studs and boundary elements that are integral elements in load-bearing walls of light-frame construction **shall be permitted to have required fire-resistance ratings provided by the membrane** protection provided for the load-bearing wall.*
- **IBC 704.4.2 Horizontal assemblies (new)**
  - *Horizontal assemblies are permitted to be protected with a membrane or ceiling where the membrane or ceiling provides the required fire-resistance rating and is installed in accordance with Section 711.*

# Changes to IBC Chapter 7

## Bottom Flange Protection

- 2009 IBC Language
  - (IBC 704.11 Bottom flange protection)
    - Fire protection is not required at the bottom flange of lintels, shelf angles and plates, spanning not more than **6 feet** (1829 mm) whether part of the primary structural frame or not, and from the bottom flange of lintels, shelf angles and plates not part of the primary structural frame, regardless of span.
- 2015 IBC Language
  - *IBC 704.11 Bottom flange protection*  
*(increase in allowable span)*
    - *Fire protection is not required at the bottom flange of lintels, shelf angles and plates, spanning not more than **6 feet 4 inches** (1931 mm) whether part of the primary structural frame or not, and from the bottom flange of lintels, shelf angles and plates not part of the structural frame, regardless of span.*

# Changes to IBC Chapter 7

## Projections

- 2009 IBC Language
- (IBC 705.2 Projections)
  - Cornices, eave overhangs, exterior balconies and similar projections extending beyond the *exterior wall* shall conform to the requirements of this section and Section 1406. Exterior egress balconies and *exterior exit stairways* shall also comply with Sections 1019 and 1026, respectively. Projections shall not extend beyond the distance determined by the following three methods, whichever results in the lesser projection:
    - 1. A point one-third the distance from the exterior face of the wall to the *lot line* where protected openings or a combination of protected and unprotected openings are required in the *exterior wall*.
    - 2. A point one-half the distance from the exterior face of the wall to the *lot line* where all openings in the *exterior wall* are permitted to be unprotected or the building is equipped throughout with an *automatic sprinkler system* installed under the provisions of Section 705.8.2.
    - 3. More than 12 inches (305 mm) into areas where openings are prohibited.
  - Buildings on the same lot and considered as portions of one building in accordance with Section 705.3 are not required to comply with this section.
- 2015 IBC Language
- **IBC 705.2 Projections**  
*(modifies permitted projections beyond exterior walls)*
  - *Cornices, eave overhangs, exterior balconies and similar projections extending beyond the exterior wall shall conform to the requirements of this section and Section 1406. Exterior egress balconies and exterior exit stairways and ramps shall comply with Sections 1021 and 1027, respectively. Projections shall not extend any closer to the line used to determine the fire separation distance than shown in **Table 705.2**.*
  - **Exception:** *Buildings on the same lot and considered as portions of one building in accordance with Section 705.3 are not required to comply with this section for projections between the buildings.*

# Changes to IBC Chapter 7

## Projections: continued

- **TABLE 705.2 MINIMUM DISTANCE OF PROJECTION**

**TABLE 705.2** Minimum Distance of Projection

Fire Separation Distance (FSD)	Minimum Distance from Line Used to Determine FSD
0 feet to less than 2 feet	Projections not permitted
<u>Greater than 2 feet to less than 5 feet</u> <u>3 feet</u>	24 inches
<u>5 feet or Greater than 3 feet to less than 30 feet</u>	<u>40 inches</u> <u>24 inches plus 8 inches for every foot of FSD beyond 3 feet or fraction thereof</u>
<u>30 feet or greater</u>	<u>20 feet</u>

For SI: 1 foot = 304.8 mm; 1 inch = 25.4 mm.

- 2015 IBC Language
  - **IBC 705.2.1 Type I and II construction (new)**
    - Projections from walls of Type I or II construction shall be of noncombustible materials or combustible materials as allowed by Sections 1406.3 and 1406.4.

### **IBC 705.2.2 Type III, IV or V construction (new)**

- Projections from walls of Type III, IV or V construction shall be of any approved material.

# Changes to IBC Chapter 7

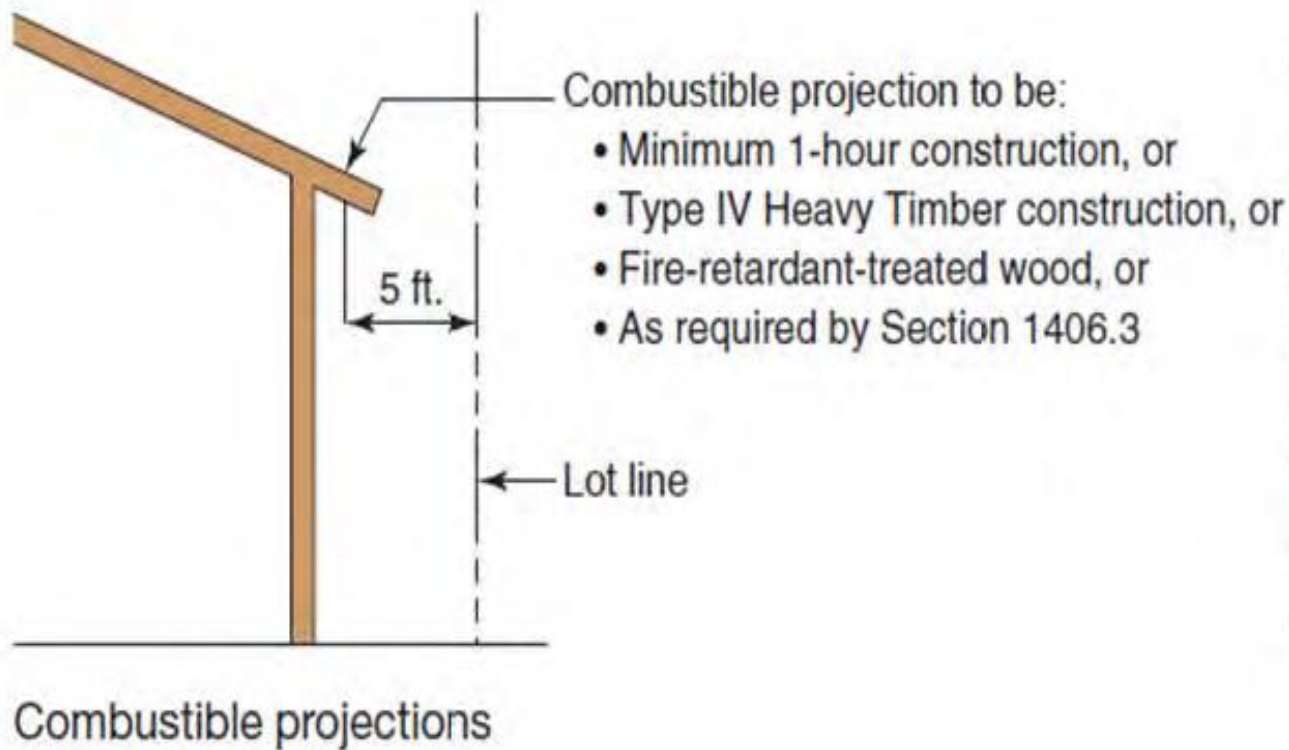
## Combustible Projections

- 2009 IBC Language
- 705.2.3 Combustible projections
  - Combustible projections located where openings are not permitted or where protection of openings is required shall be of at least 1-hour fire-resistance-rated construction, Type IV construction, *fire-retardant-treated wood* or as required by Section 1406.3.
  - **Exception:** Type V construction shall be allowed for R-3 occupancies.
- 2015 IBC Language
  - *IBC 705.2.3 Combustible projections (changed)*
    - *Combustible projections extending to within 5 feet (1524 mm) of the line used to determine the fire separation distance shall be of not less than 1-hour fire-resistance-rated construction, Type IV construction, fire-retardant-treated wood or as required by Section 1406.3.*
    - **Exception:** Type VB construction shall be allowed for combustible projections in Group R-3 and U occupancies with a fire separation distance greater than or equal to 5 feet (1524 mm).
    - *(Modifies the provisions requiring protection of combustible projections by eliminating the requirement for such protection where openings in the exterior wall are not permitted or where protection of some openings is required)*



# Changes to IBC Chapter 7 Combustible Projections

- ICC example diagram:



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# Changes to IBC Chapter 7

## Buildings on the Same Lot

- 2009 IBC Language
  - (705.3 Buildings on the same lot)
    - For the purposes of determining the required wall and opening protection and roof-covering requirements, buildings on the same lot shall be assumed to have an imaginary line between them.
    - Where a new building is to be erected on the same lot as an existing building, the location of the assumed imaginary line with relation to the existing building shall be such that the *exterior wall* and opening protection of the existing building meet the criteria as set forth in Sections 705.5 and 705.8.
      - **Exception:** Two or more buildings on the same lot shall either be regulated as separate buildings or shall be considered as portions of one building if the aggregate area of such buildings is within the limits specified in Chapter 5 for a single building. Where the buildings contain different occupancy groups or are of different types of construction, the area shall be that allowed for the most restrictive occupancy or construction.
- 2015 IBC Language
  - ***IBC 705.3 Buildings on the same lot***  
***(new exception)***
    - ***(new) 2. Where an S-2 parking garage of Construction Type I or IIA is erected on the same lot as a Group R-2 building, and there is no fire separation distance between these buildings, then the adjoining exterior walls between the buildings are permitted to have occupant use openings in accordance with Section 706.8. However, opening protectives in such openings shall only be required in the exterior wall of the S-2 parking garage, not in the exterior wall openings in the R-2 building, and these opening protectives in the exterior wall of the S-2 parking garage shall be not less than 1 1/2-hour fire protection rating.***

# Changes to IBC Chapter 7

## Structural Stability

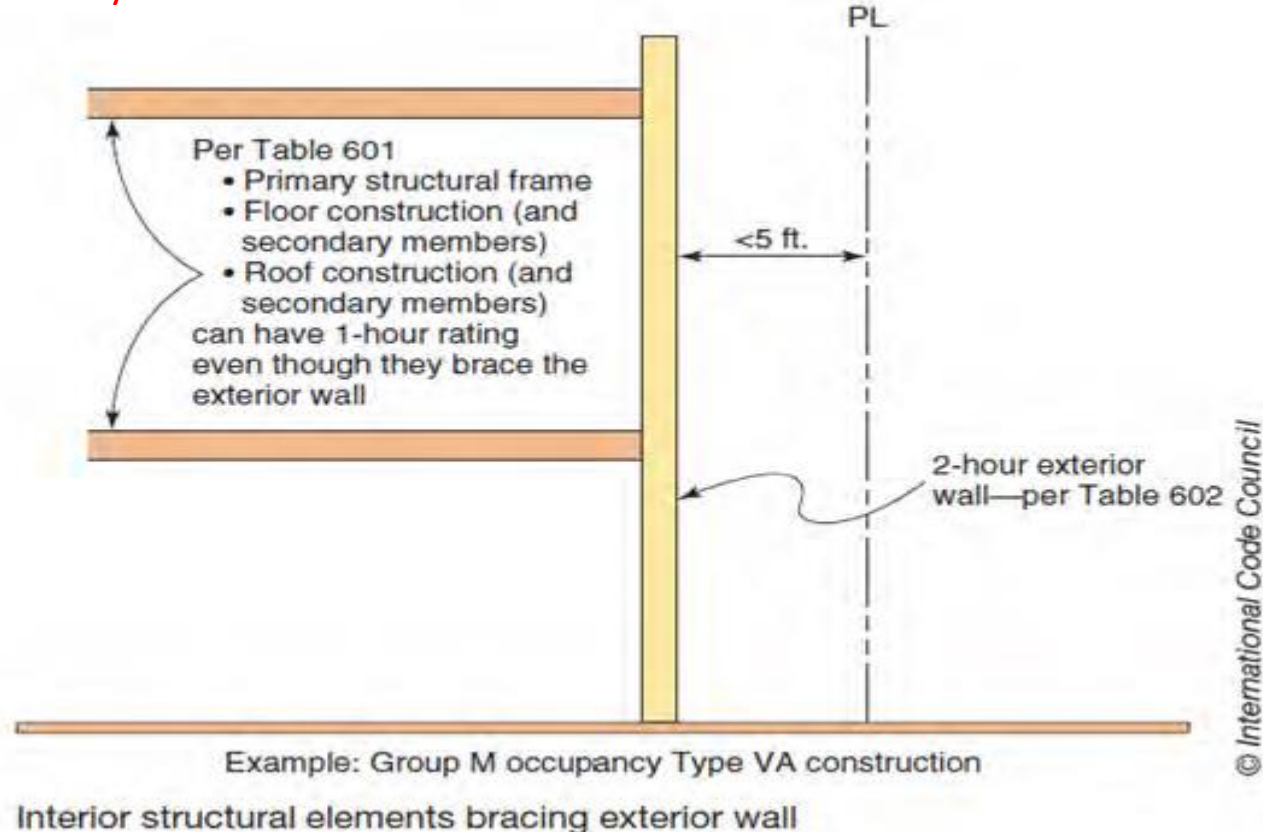
- 2009 IBC Language
  - (IBC 705.6 Structural stability)
    - The wall shall extend to the height required by Section 705.11 and shall have sufficient structural stability such that it will remain in place for the duration of time indicated by the required *fire-resistance rating*.
- 2015 IBC Language
  - **IBC 705.6 Structural stability (*changed*)**
    - *Exterior walls shall extend to the height required by Section 705.11. Interior structural elements that brace the exterior wall but that are not located within the plane of the exterior wall shall have the minimum fire-resistance rating required in Table 601 for that structural element. Structural elements that brace the exterior wall but are located outside of the exterior wall or within the plane of the exterior wall shall have the minimum fire-resistance rating required in Tables 601 and 602 for the exterior wall.*
    - *Refer to diagram on next slide*

# Changes to IBC Chapter 7

## Structural Stability

- IBC 705.6 Structural element bracing of exterior walls

Structural stability requirements of exterior walls no longer require interior structural elements bracing the exterior wall to have an equivalent fire-rating to the exterior wall regardless of the building's proximity to a lot line.



# Changes to IBC Chapter 7

## Vertical Separation of Openings

- 2009 IBC Language
- (IBC 705.8.5 Vertical separation of openings)
  - Openings in *exterior walls* in adjacent *stories* shall be separated vertically to protect against fire spread on the exterior of the buildings where the openings are within 5 feet (1524 mm) of each other horizontally and the opening in the lower *story* is not a protected opening with a *fire protection rating* of not less than 3/4 hour. Such openings shall be separated vertically at least 3 feet (914 mm) by spandrel girders, *exterior walls* or other similar assemblies that have a *fire-resistance rating* of at least 1 hour or by flame barriers that extend horizontally at least 30 inches (762 mm) beyond the *exterior wall*. Flame barriers shall also have a *fire-resistance rating* of at least 1 hour. The unexposed surface temperature limitations specified in ASTM E 119 or UL 263 shall not apply to the flame barriers or vertical separation unless otherwise required by the provisions of this code.
  - Exceptions:
    1. This section shall not apply to buildings that are three *stories* or less above *grade plane*.
    2. This section shall not apply to buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.3.
    3. Open parking garages.
- 2015 IBC Language
- **IBC 705.8.5 Vertical separation of openings (changed)**
  - *Openings in exterior walls in adjacent stories shall be separated vertically to protect against fire spread on the exterior of the buildings where the openings are within 5 feet (1524 mm) of each other horizontally and the opening in the lower story is not a protected opening with a fire protection rating of not less than ¾ hour. Such openings shall be separated vertically not less than 3 feet (914 mm) by spandrel girders, exterior walls or other similar assemblies that have a fire resistance rating of not less than 1 hour, rated for exposure to fire from both sides, or by flame barriers that extend horizontally not less than 30 inches (762 mm) beyond the exterior wall. Flame barriers shall have a fire resistance rating of not less than 1 hour. The unexposed surface temperature limitations specified in ASTM E119 or UL 263 shall not apply to the flame barriers or vertical separation unless otherwise required by the provisions of this code.*
  - **Exceptions:**
    - 1. This section shall not apply to buildings that are three stories or less above grade plane.
    - 2. This section shall not apply to buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
    - 3. Open parking garages.

# Changes to IBC Chapter 7

## Structural Stability

- 2009 IBC Language
  - (IBC 706.2 Structural stability)
  - *Fire walls* shall have sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall for the duration of time indicated by the required *fire-resistance rating*.
- 2015 IBC Language
  - *IBC 706.2 Structural stability (changed)*
    - ... *Fire walls designed and constructed in accordance with NFPA 221 shall be deemed to comply with this section.*
    - *(Adds provisions for building a double fire wall constructed in accordance with NFPA 221 and for structural requirements of a fire wall by also allowing the “tied” and “cantilevered” options addressed in the standard)*

# Changes to IBC Chapter 7

## Vertical Continuity

- 2009 IBC Language  
(706.6 Vertical continuity)

- 2015 IBC Language

### **IBC 706.6 Vertical continuity (changed)**

Fire walls shall extend from the foundation to a termination point not less than 30 inches (762 mm) above both adjacent roofs.

#### **Exceptions:**

1. Stepped buildings **in accordance with Section 706.6.1.**
2. Two-hour fire-resistance-rated walls shall be permitted to terminate at the underside of the roof sheathing, deck or slab, provided:
  - 2.1. The lower roof assembly within 4 feet (122 mm) of the wall has not less than a 1-hour fire-resistance rating and the entire length and span of supporting elements for the rated roof assembly has a fire-resistance rating of not less than 1 hour.
  - 2.2. Openings in the roof shall not be located within 4 feet (1220 mm) of the fire wall.
  - 2.3. Each building shall be provided with not less than a Class B roof covering.
3. Walls shall be permitted to terminate at the underside of noncombustible roof sheathing, deck or slabs where both buildings are provided with not less than a Class B roof covering. Openings in the roof shall not be located within 4 feet (1220 mm) of the fire wall.
4. In buildings of Type III, IV and V construction, walls shall be permitted to terminate at the underside of combustible roof sheathing or decks, provided:
  - 4.1. There are no openings in the roof within 4 feet (1220 mm) of the fire wall,
  - 4.2. The roof is covered with a minimum Class B roof covering, and
  - 4.3. The roof sheathing or deck is constructed of fire-retardant-treated wood for a distance of 4 feet (1220 mm) on both sides of the wall or the roof is protected with 5/8-inch (15.9 mm) Type X gypsum board directly beneath the underside of the roof sheathing or deck, supported by not less than 2-inch (51 mm) nominal ledgers attached to the sides of the roof framing members for a distance of not less than 4 feet (1220 mm) on both sides of the fire wall.
5. In buildings designed in accordance with Section 510.2, fire walls located above the 3-hour horizontal assembly required by Section 510.2, Item 1 shall be permitted to extend from the top of this horizontal assembly.
- (new)** 6. Buildings with sloped roofs in accordance with Section 706.6.2.





# Changes to IBC Chapter 7

## Buildings with sloped roofs

- 2009 IBC Language
- (None)
- 2015 IBC Language
  - *IBC 706.6.2 Buildings with sloped roofs (new)*
    - *Where a fire wall serves as an interior wall for a building, and the roof on one side or both sides of the fire wall slopes toward the fire wall at a slope greater than two units vertical in 12 units horizontal (2:12), the fire wall shall extend to a height equal to the height of the roof located 4 feet (1219 mm) from the fire wall plus 30 inches (762 mm). In no case shall the extension of the fire wall be less than 30 inches (762 mm).*
    - *(Adds provisions for fire wall parapet height requirements where sloping roofs occur at one or both sides of an interior parapet by adding the height of the sloped roof four feet away from the parapet to the minimum parapet height of 30" when the sloped roof has a slope greater than 2 in 12)*

# Changes to IBC Chapter 7

## Continuity

- 2009 IBC Language
  - (IBC 707.5 Continuity)
  - Fire barriers shall extend from the top of the floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above and shall be securely attached thereto. Such *fire barriers* shall be continuous through concealed spaces, such as the space above a suspended ceiling.
- ***Repealed***
  - [SPS 362.0706](#) Fire wall identification.
  - [SPS 362.0707](#) Fire barriers.
  - [SPS 362.0708](#) Shaft enclosure
- 2015 IBC Language
  - ***IBC 707.5 Continuity (changed)***
    - Fire barriers shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above and shall be securely attached thereto. Such fire barriers shall be continuous through concealed space, such as the space above a suspended ceiling. ***Joints and voids at intersections shall comply with Sections 707.8 and 707.9***
    - ***Exceptions:***
    - 1. *Shaft enclosures shall be permitted to terminate at a top enclosure complying with Section 713.12.*
    - 2. *Interior exit stairway and ramp enclosures required by Section 1023 and exit access stairway and ramp enclosures required by Section 1019 shall be permitted to terminate at a top enclosure complying with Section 713.12.*



# Changes to IBC Chapter 7

## Joints

- 2009 IBC Language
- (IBC 707.8 Joints)
  - Joints made in or between *fire barriers*, and joints made at the intersection of *fire barriers* with underside of the floor or roof sheathing, slab or deck above, shall comply with Section 714.
- 2015 IBC Language
  - *IBC 707.8 Joints (changed)*
    - *Joints made in or between fire barriers, and joints made at the intersection of fire barriers with underside of a fire-resistance-rated floor or roof sheathing, slab or deck above, and the exterior vertical wall intersection shall comply with Section 715.*
    - *(Modifies the requirements for fire protection at the intersection of fire barriers and nonfire-resistant rated roof assemblies by allowing voids to be filled with securely installed approved materials or systems in lieu of a fire resistant joint system complying with ASTM E 1966 or UL 2079)*

# Changes to IBC Chapter 7

## Voids at intersections

- 2009 IBC Language
- (IBC 707.9 Ducts and air transfer openings)
  - Moved to  
707.10
- 2015 IBC Language
- **IBC 707.9 Voids at intersections (new)**
  - *The voids created at the intersection of a fire barrier and a nonfire-resistance rated roof assembly or a nonfire-resistance-rated exterior wall assembly shall be filled. An approved material or system shall be used to fill the void, and shall be securely installed in or on the intersection for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to retard the passage of fire and hot gases.*

# Changes to IBC Chapter 7

## Continuity

- 2009 IBC Language
  - (IBC 709.4 Continuity)
  - Fire partitions shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck...
- 2015 IBC Language
  - **IBC 709.4 Continuity (changed)**
    - *Smoke barriers shall form an effective membrane continuous from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, deck or slab above, including continuity through concealed spaces, such as those found above suspended ceilings, and interstitial structural and mechanical spaces. The supporting construction shall be protected to afford the required fire-resistance rating of the wall or floor supported in buildings of other than Type IIB, IIIB or VB construction. Smoke barrier walls used to separate smoke compartments shall comply with Section 709.4.1. Smoke-barrier walls used to enclose areas of refuge in accordance with Section 1009.6.4 or to enclose elevator lobbies in accordance with Section 405.4.3, 3007.6.2, or 3008.6.2 shall comply with Section 709.4.2.*
    - **Exception:** *Smoke-barrier walls are not required in interstitial spaces where such spaces are designed and constructed with ceilings or exterior walls that provide resistance to the passage of fire and smoke equivalent to that provided by the smoke-barrier walls.*
    - *(Refer to next slide for new related code sections)*

# Changes to IBC Chapter 7

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- 2015 IBC Language
- **IBC 709.4.1 Smoke-barrier walls separating smoke compartments (new)**
  - Smoke-barrier walls used to separate smoke compartments shall form an effective membrane continuous from outside wall to outside wall.
- **IBC 709.4.2 Smoke-barrier walls enclosing areas of refuge or elevator lobbies (new)**
  - Smoke-barrier walls used to enclose areas of refuge in accordance with Section 1009.6.4, or to enclose elevator lobbies in accordance with Section 405.4.3, 3007.6.2, or 3008.6.2, shall form an effective membrane enclosure that terminates at a fire barrier wall having a level of fire protection rating not less than 1 hour, another smoke barrier wall or an outside wall. A smoke and draft control door assembly as specified in Section 716.5.3.1 shall not be required at each elevator hoistway door opening or at each exit doorway between an area of refuge and the
  - (Clarifies the horizontal continuity of smoke barriers used to create smoke compartments as well as smoke barrier walls used to create enclosures at elevator lobbies or areas of refuge)

# Changes to IBC Chapter 7

## Reformatting

- 2015 IBC Language
- The sections on shaft enclosures & horizontal assemblies have been reformatted with the requirements for the protection of vertical openings relocated to a separate section. Section 711 now contains only the construction requirements for floor and roof assemblies, Section 712 only contains the requirements related to the protection of vertical openings, and Section 713 only contains the requirements related to shaft enclosures.

# Changes to IBC Chapter 7

## Horizontal Assemblies (Non Fire Rated)

- 2009 IBC Language
  - IBC 712.1 – Non rated floor and roof assemblies to comply with Section 713.4.2
  - Under IBC 713.4.2 Penetrations must comply with either:
    - Shaft enclosures per Section 708
    - ≤ Two stories: Annular spaces filled with approved flame and product of combustion resistant materials
    - ≤ Three stories: Annular spaces filled approved noncombustible material or tested and classified through-penetration firestop system
- 2015 IBC Language
  - IBC 711.1 – Non rated floor and roof assemblies to comply with Section 711.3.
  - IBC 711.3.1 – Assemblies shall be of materials permitted by the building type of construction.
  - IBC 711.3.2 – Assemblies shall be continuous without vertical openings, except as permitted by Section 712.

# Changes to IBC Chapter 7

## Horizontal Assemblies (Fire Rating)

- 2009 IBC Language
  - IBC 712.3 Fire-resistance rating
  - Uses terms: floor and roof assemblies, floor assembly, horizontal assembly
- 2015 IBC Language
  - Fire-resistance provision split into four sections:
    - IBC 711.2.4 Fire-resistance rating
    - IBC 711.2.4.1 Separating mixed occupancies
    - 711.2.4.2 Separating fire areas
    - 711.2.4.3 Dwelling units and sleeping units
  - Uses term *Horizontal Assembly*
  - Clarifies 711.2.4.3 applies to Section 420.3 horizontal assemblies

# Changes to IBC Chapter 7

## Horizontal Assemblies (Smoke Barrier)

- **2009 IBC Language**
  - **IBC 712.9 Smoke Barrier**
  - Where horizontal assembly is required to be smoke barrier:
    - Penetrations and joints protected
    - Elevator lobbies with protected doors required regardless of number stories penetrated by elevator shaft complying with Section 708.14.1.
    - No unprotected vertical openings
- **2015 IBC Language**
  - **IBC 711.2.4.4 Separating Smoke Compartments**
  - Where the horizontal assembly is required to be a smoke barrier, the assembly shall comply with Section 709.



# Changes to IBC Chapter 7

## Vertical Openings

- 2009 IBC Language
  - IBC 708.2 Exceptions 1 through 16 – Contain requirements for vertical openings not requiring shaft enclosures
  - IBC 708.2 Exception 11 – Shaft enclosure not required for unenclosed stairs or ramps in accordance with Section 1016.1 Exception 3 or 4
  - IBC 712.4 (less exceptions) – Skylight and roof penetrations
  - IBC 712.8 – Floor fire door assemblies
  - IBC 712.3.2 – Access doors
- 2015 IBC Language
  - IBC Section 712 – Requirements for protection of vertical openings not requiring shaft enclosures are relocated to this section
  - IBC 712.1.12 – Allows vertical openings with exit access stairways or ramps in accordance with Section 1019
  - IBC 712.1.15 – Skylight and roof penetrations relocated here
  - IBC 712.1.13.1 – Floor fire door assemblies relocated here
  - IBC 712.1.13.2 – Access doors

# Changes to IBC Chapter 7

## Escalator Openings

- 2009 IBC Language
  - IBC 708.2 Ex. 2 Item 2.2 allows escalator openings in buildings sprinklered throughout where opening protection is provided by **approved power-operated automatic shutters** at every penetrated floor
  - (Exception 2 also pertains to openings for stairways that are not a portion of the means of egress)
- 2015 IBC Language
  - IBC 712.1.3.2 allows escalator openings in buildings sprinklered throughout where protection of the vertical opening is provided by **approved shutters** at every penetrated floor

# Changes to IBC Chapter 7

## Exit Stair & Ramp Enclosures

### 2009 IBC Language

- IBC 708.2 – requires openings through a floor/ceiling assembly to be protected by a shaft enclosure complying with this section
- **Old SPS Language**
- SPS 362.0708 – amends condition 7.2 of IBC 708.2 Exception 7 to read, “Is not part of a required exit enclosure”, as one of the conditions that must be met for a shaft enclosure not to be required at floor openings in other than Group I-2 and I-3 occupancies

### 2015 IBC Language

- IBC 713.1 – states in part that interior exit stairways and ramps shall be enclosed in accordance with Section 1023
- **New SPS Language**
- SPS 362.0708 is repealed

# Changes to IBC Chapter 7

## Shaft Enclosures (Penetrations)

- 2009 IBC Language
- IBC 708.8.1 – Limits shaft enclosure penetrations to those necessary for the purpose of the shaft
- 2015 IBC Language
- IBC 713.8 – New language in this section allows shaft enclosures to be penetrated **by structural elements**, such as beams or joists, where protected in accordance with Section 714
- According to the *2015 International Building Code Commentary*, under Section 714.3.1 such penetrating structural members must be tested in the assembly and meet ASTM E814 or UL 1479
- This change applies only to shafts governed under Section 713. It does not address stair shafts under Sections 1009 and 1023.

# Changes to IBC Chapter 7

## Waste and Linen Chute Enclosures

- 2009 IBC Language
  - Uses terms: refuse chute, laundry chute
  - Shaft enclosure requirements apply to refuse and laundry chutes
- 2015 IBC Language
  - Uses terms: **waste chute**, **linen chute**, **recycling chute**
  - IBC 713.13 – Requires chutes to also comply with provisions of NFPA 82 Chapter 5
  - IBC 713.13.1 and 713.13.2 – Shaft enclosure requirements in these sections apply to recycling chutes in addition to waste and linen chutes
  - IBC 716.5.2 – Requires bottom and side-hinged chute intake and top-hinged chute discharge fire door assemblies to be tested in accordance with NFPA 252 or UL 10B
  - IBC 716.5.9.1.1 – Requires positive latching chute intake doors to remain latched and closed in event of latch spring failure during fire emergency

# Changes to IBC Chapter 7

## Incinerator Rooms

- 2009 IBC Language
  - IBC 708.13.5 – requires incinerator rooms to comply with Table 508.2.5 Incidental Accessory Occupancies
- 2015 IBC Language
  - IBC 713.13 – requires incinerator rooms to meet provisions of:
    - IBC 713.13.4 – relating to chute discharge rooms
    - IBC 713.13.5 – relating to Table 509 Incidental Accessory Occupancies

# Changes to IBC Chapter 7

## Chute Discharge Rooms

- 2009 IBC Language

- Term used: Termination Room
- IBC 708.13.4 – Requires room enclosure fire rating  $\geq$  1 hour
- IBC 708.13.4 – Requires opening protective fire protection rating  $\geq$   $\frac{3}{4}$  hour
- IBC 708.13.4 – Applicable to termination rooms serving refuse or laundry chutes

- 2015 IBC Language

- Term used: Discharge Room
- IBC 713.13.4 – Requires room enclosure fire rating  $\geq$  required rating of shaft enclosure
- IBC 713.13.4 – Requires opening protective fire protection rating  $\geq$  required rating of shaft enclosure

### **New SPS Language**

- SPS 362.0713 – this rule applies the requirements for discharge rooms of IBC 713.13.4 to recycling chutes in addition to waste and linen chutes

# Changes to IBC Chapter 7

## Elevator Lobbies and Hoistway Openings

- **2009 IBC Language**
  - IBC 708.14.1 and 708.14.1.1 – These sections comprise requirements for elevator lobbies and hoistway opening protection
  - IBC 708.14.2 to 708.14.2.11 – These sections comprise the requirements for the elevator hoistway pressurization alternative
- **2015 IBC Language**
  - IBC 3006 – Elevator lobby and hoistway opening protection requirements with revisions are relocated to Section 3006
  - IBC 909.21 to 909.21.11 – Elevator hoistway pressurization alternative requirements with revisions are relocated to these sections



# Changes to IBC Chapter 7

## Membrane Penetrations (Walls)

- 2015 IBC Language
- **IBC 714.3.2 Exception 6** – This **new exception** allows membrane penetrations of maximum 2-hour fire resistance-rated walls and partitions by **steel electrical boxes** that exceed 16 square inches in area, or steel electrical boxes of any size having an aggregate area through the membrane exceeding 100 square inches in any 100 square feet of wall area, provided such penetrating items are protected by listed putty pads or other listed materials and methods, and installed in accordance with the listing.

# Changes to IBC Chapter 7

## Membrane Penetrations (Horizontal Assembly)

- 2015 IBC Language
- **IBC 714.4.2 Exception 7** – Allows double wood top plates to interrupt ceiling membrane if all of the following apply:
  - 1- or 2- hour horizontal assembly
  - Penetrating items of top plates protected per Section 715.4.4.1.1 or 714.4.1.2
  - Ceiling membrane tight to top plates
  - Wall sheathed with Type X gypsum board (no rating needed unless required under another code section such as 711.2.3)

# Fire Ratings

- **F Rating**- The time period that the through penetration firestop system **limits the spread of fire** through the penetration when tested in accordance with ASTM E 814 or UL 1479.
- **L Rating** – The **air leakage rating** of a through penetration firestop system or a fire resistant joint system when tested in accordance with UL 1479 or UL 2079
- **T Rating** – The time period that the penetration firestop system including the penetration item **limits the maximum temperature rise to 325 degrees** above initial temperature.

# Changes to IBC Chapter 7

## Through-Penetration Firestop Systems (T-Rating)

- 2009 IBC Language
  - IBC 713.4.1.1.2 – Allows one exception to the T-rating requirement for a through-penetration firestop system:
    - Floor penetrations contained and located within cavity of a wall above or below the floor
- 2015 IBC Language
  - IBC 714.4.1.1.2 – Allows two additional exceptions to the T-rating requirement:
    - Floor penetrations by floor drains, tub drains or shower drains contained and located within the concealed space of a horizontal assembly
    - Floor penetrations of maximum 4-inch nominal diameter penetrating directly into metal-enclosed electrical power switchgear

# Changes to IBC Chapter 7

## Penetrations in Smoke Barriers (L-Rating)

- 2009 IBC Language
  - IBC 713.5 – Requires through-penetration firestop systems in smoke barriers to have air leakage rates tested per UL 1479 for ambient and elevated temperatures at 7.47 Pascals that do not exceed 5 cfm per square foot of penetration opening and total cumulative 50 cfm for any 100 square feet of wall or floor.
- 2015 IBC Language
  - IBC 714.4.4 – Requires through-penetration firestop systems in smoke barriers to have an ***L-Rating*** identifying the air leakage rate.
  - The 5 cfm at 7.47 Pa air leakage rates and UL 1479 test standard remain the same.

# Changes to IBC Chapter 7

## Fire-resistive Joint Systems (F-Rating)

- 2009 IBC Language
  - IBC 714.4 – Requires ASTM E 2307 joint systems at exterior curtain wall to floor intersections to be sufficient to prevent passage of flame and prevent ignition of cotton waste for time period  $\geq$  to rating of floor assembly
- 2015 IBC Language
  - IBC 715.4 – Requires ASTM E 2307 joint systems at exterior curtain wall to floor intersections to have an ***F-rating***  $\geq$  to rating of floor assembly
  - An exception, where vision glass extends to finish floor level, allows for the use of joint material that prevents ignition of cotton waste when tested to ASTM E 119 time temperature conditions under 2.5 pascals positive pressure

# Changes to IBC Chapter 7

## Joint Systems (Curtain Wall/Vertical Fire Barrier)

- 2015 IBC Language
- IBC 715.4.2 – States that voids created at the intersection of nonfire-resistance-rated exterior curtain wall assemblies and fire barriers shall be filled. An approved material or system shall be used to fill the void and shall be securely installed in or on the intersection for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to retard the passage of fire and Codes and Standards hot gases.

# Changes to IBC Chapter 7

## Joint Systems in Smoke Barriers (L-Rating)

- 2009 IBC Language
  - IBC 714.6 – Requires fire-resistive joint systems in smoke barriers to have air leakage rates tested per UL 2079 that do not exceed 5 cfm per lineal foot at 7.47 Pascals for ambient and elevated temperature tests.
- 2015 IBC Language
  - IBC 715.6 – Requires fire-resistive joint systems in smoke barriers to have an ***L-Rating*** identifying the air leakage rate.
  - The 5 cfm/lf at 7.47 Pa air leakage rate and UL 2079 test standard remain the same.



# Changes to IBC Chapter 7

## Fire-Resistance-Rated Glazing

- 2009 IBC Language
  - IBC 715.2 – States, “Fire-resistance-rated glazing tested as part of a fire-resistance-rated wall assembly in accordance with ASTM E 119 or UL 263 and labeled in accordance with Section shall be permitted in fire doors and fire windows assembly in accordance with their listings and shall not otherwise be required to comply with this section.”
- 2015 IBC Language
  - IBC 716.2 – Changed language clarifies that fire-resistance-rated glazing:
    - When tested, labeled (per IBC 703.6), and installed in accordance with ASTM E 119 or UL 263:
      - May be used as part of a wall or floor/ceiling assembly
      - Does not otherwise need to comply with Section 716
    - Where used as part of a fire door or fire window assembly:
      - Must comply with applicable provisions in Section 716

# Changes to IBC Chapter 7

## Fire-Resistance-Rated Glazing, cont'd.

- 2015 IBC Language

- IBC 716.5.5.1 – Changed language now requires listed fire-resistance-rated glazing for lights in excess of 100 square inches in fire doors with the glazing having maximum transmitted temperature rise in accordance with Section 716.5.5 when door is tested to NFPA 252, UL 10B or UL 10C
- IBC 716.5.8 , 716.5.8.1 and 716.5.8.1 – Added language clarifies that fire-resistance-rated glazing is also permitted in fire door assemblies in accordance with Table 716.5 up to the maximum size tested in accordance with ASTM E 119 or UL 263 and UL263, UL 10B or UL 10C
- IBC 716.5.8.4 and 716.6.3 – Added language clarifies that where safety glazing requirements of Chapter 24 are applicable they also apply to fire-resistance-rated glazing
- IBC 716.6.7.1 – Added language clarifies that fire-resistance-rated glazing assemblies tested to ASTM E 119 or UL 263 are not subject to the limitations placed on where certain ¾ hour fire protection window assemblies are permitted

# Changes to IBC Chapter 7

## Fire-Rated Glazing Identification

- 2015 IBC Language
- IBC Table 716.3 – Summarizes and defines in tabular form the fire-rated glazing markings with their associated fire test standards from Sections 716.3.1 and 716.3.2

**TABLE 716.3**  
**MARKING FIRE-RATED GLAZING ASSEMBLIES**

FIRE TEST STANDARD	MARKING	DEFINITION OF MARKING
ASTM E 119 or UL 263	W	Meets wall assembly criteria.
NFPA 257 or UL 9	OH	Meets fire window assembly criteria including the hose stream test.
NFPA 252 or UL 10B or UL 10C	D	Meets fire door assembly criteria.
	H	Meets fire door assembly hose stream test.
	T	Meets 450°F temperature rise criteria for 30 minutes
	XXX	The time in minutes of the fire resistance or fire protection rating of the glazing assembly.

For SI: °C = [(°F) - 32]/1.8.

- IBC 716.3.3 – Clarifies that fire-rated glazing assemblies that exceed code requirements for hose stream (H), temperature rise (T), and fire-resistance (XXX) shall be permitted

# Changes to IBC Chapter 7

## Opening Fire Protection Assembly Ratings

- 2015 IBC Language
- IBC Table 716.5 – In addition to the minimum fire door and fire shutter protection ratings that were provided in Table 715.4 of the 2009 edition, this revised table has an expanded list of assembly types and includes maximum sizes for door vision panels, minimum sidelight/transom assembly ratings, and identifies the fire-rated markings required on the vision panels, sidelights and transoms.

# Changes to IBC Chapter 7

## Opening Fire Protection Assembly Ratings

- 2015 IBC Language

TABLE 716.5  
OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS

TYPE OF ASSEMBLY	REQUIRED WALL ASSEMBLY RATING (hours)	MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (hours)	DOOR VISION PANEL SIZE <sup>b</sup>	FIRE-RATED GLAZING MARKING DOOR VISION PANEL <sup>d</sup>	MINIMUM SIDELIGHT/TRANSOM ASSEMBLY RATING (hours)		FIRE-RATED GLAZING MARKING SIDELIGHT/TRANSOM PANEL	
					Fire protection	Fire resistance	Fire protection	Fire resistance
Fire walls and fire barriers having a required fire-resistance rating greater than 1 hour	4	3	See Note b	D-H-W-240	Not Permitted	4	Not Permitted	W-240
	3	3 <sup>a</sup>	See Note b	D-H-W-180	Not Permitted	3	Not Permitted	W-180
	2	1½	100 sq. in.	≤100 sq. in. = D-H-90 >100 sq. in. = D-H-W-90	Not Permitted	2	Not Permitted	W-120
	1½	1½	100 sq. in.	≤100 sq. in. = D-H-90 >100 sq. in. = D-H-W-90	Not Permitted	1½	Not Permitted	W-90
Enclosures for shafts, interior exit stairways and interior exit ramps.	2	1½	100 sq. in.	≤100 sq. in. = D-H-90 > 100 sq. in. = D-H-T-W-90	Not Permitted	2	Not Permitted	W-120
Horizontal exits in fire walls <sup>e</sup>	4	3	100 sq. in.	≤100 sq. in. = D-H-180 > 100 sq. in. = D-H-W-240	Not Permitted	4	Not Permitted	W-240
	3	3 <sup>a</sup>	100 sq. in.	≤100 sq. in. = D-H-180 > 100 sq. in. = D-H-W-180	Not Permitted	3	Not Permitted	W-180

• (continued)

# Changes to IBC Chapter 7

## Opening Fire Protection Assembly Ratings

- 2015 IBC Language

- Table 716.5 - continued

Fire barriers having a required fire-resistance rating of 1 hour: Enclosures for shafts, exit access stairways, exit access ramps, interior exit stairways and interior exit ramps; and exit passageway walls	1	1	100 sq. in. <sup>c</sup>	≤100 sq. in. = D-H-60 >100 sq. in. = D-H-T-W-60	Not Permitted	1	Not Permitted	W-60
					<b>Fire protection</b>			
Other fire barriers	1	$\frac{3}{4}$	Maximum size tested	D-H	$\frac{3}{4}$		D-H	
Fire partitions: Corridor walls	1	$\frac{1}{3}$ <sup>b</sup>	Maximum size tested	D-20	$\frac{3}{4}$ <sup>b</sup>		D-H-OH-45	
	0.5	$\frac{1}{3}$ <sup>b</sup>	Maximum size tested	D-20	$\frac{1}{3}$		D-H-OH-20	
Other fire partitions	1	$\frac{3}{4}$	Maximum size tested	D-H-45	$\frac{3}{4}$		D-H-45	
	0.5	$\frac{1}{3}$	Maximum size tested	D-H-20	$\frac{1}{3}$		D-H-20	

(continued)

# Changes to IBC Chapter 7

## Opening Fire Protection Assembly Ratings

- 2015 IBC Language

TABLE 716.5—continued  
OPENING FIRE PROTECTION ASSEMBLIES, RATINGS AND MARKINGS

TYPE OF ASSEMBLY	REQUIRED WALL ASSEMBLY RATING (hours)	MINIMUM FIRE DOOR AND FIRE SHUTTER ASSEMBLY RATING (hours)	DOOR VISION PANEL SIZE <sup>b</sup>	FIRE-RATED GLAZING MARKING DOOR VISION PANEL <sup>d</sup>	MINIMUM SIDELIGHT/TRANSOM ASSEMBLY RATING (hours)		FIRE-RATED GLAZING MARKING SIDELIGHT/TRANSOM PANEL	
					Fire protection	Fire resistance	Fire protection	Fire resistance
Exterior walls	3	1½	100 sq. in. <sup>b</sup>	≤100 sq. in. = D-H-90 >100 sq. in. = D-H-W-90	Not Permitted	3	Not Permitted	W-180
	2	1½	100 sq. in. <sup>b</sup>	≤100 sq. in. = D-H-90 >100 sq. in. = D-H-W-90	Not Permitted	2	Not Permitted	W-120
					Fire protection			
	1	¾	Maximum size tested	D-H-45	¾		D-H-45	
Smoke barriers					Fire protection			
	1	⅓	Maximum size tested	D-20	¾		D-H-OH-45	

For SI: 1 square inch = 645.2 mm.

- Two doors, each with a fire protection rating of 1½ hours, installed on opposite sides of the same opening in a fire wall, shall be deemed equivalent in fire protection rating to one 3-hour fire door.
- Fire-resistance-rated glazing tested to ASTM E 119 in accordance with Section 716.2 shall be permitted, in the maximum size tested.
- Except where the building is equipped throughout with an automatic sprinkler and the fire-rated glazing meets the criteria established in Section 716.5.5.
- Under the column heading “Fire-rated glazing marking door vision panel,” W refers to the *fire-resistance rating* of the glazing, not the frame.
- See Section 716.5.8.1.2.1.

# Changes to IBC Chapter 7

## Light Kits, Louvers and Components

- 2015 IBC Language
- IBC 716.5.7.1.1 – Allows listed light kits and louvers and their required preparations to be considered as part of the labeled door where such installations are done under the listing program of the third-party agency. Fire doors and door assemblies are to be permitted to consist of components, including glazing, vision light kits and hardware that are listed or classified and labeled for such use by different third party agencies.



# Changes to IBC Chapter 7

## Sliding Fire Door Operators

- 2015 IBC Language
- IBC 716.5.7.5 – Requires fire door operators for horizontal sliding doors to be labeled and listed for use with the assembly

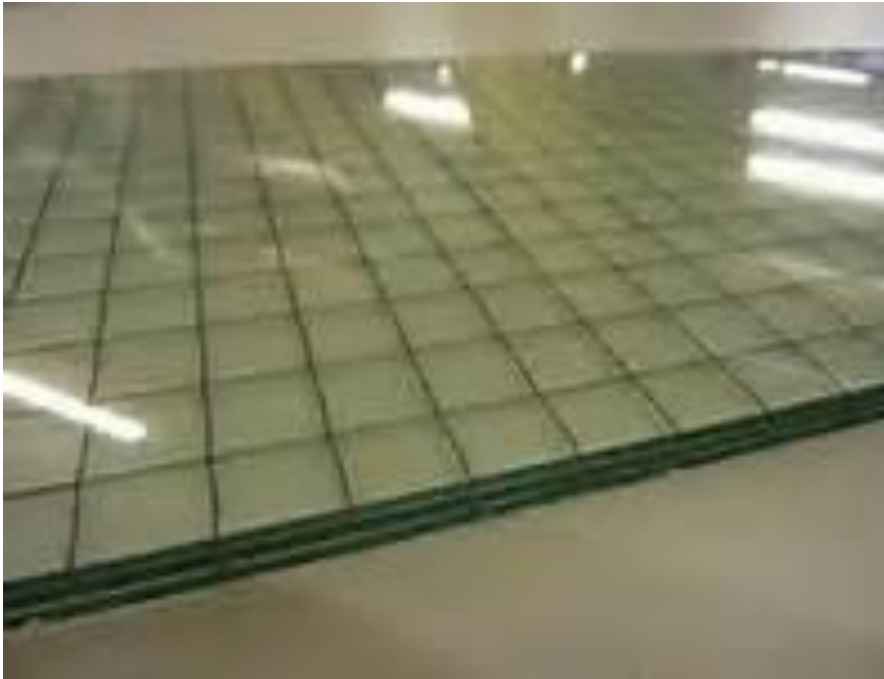
# Changes to IBC Chapter 7

## Wired Glass

- **2009 IBC Language**
  - IBC 715.5.4 – Deems labeled  $\frac{1}{4}$  - inch thick wired glass in steel window frames as meeting the requirements for a  $\frac{3}{4}$ -hour fire window assembly when within size limitations of Table 715.5.4
  - IBC 715.5 Exception 1 – Allows wired glass complying with Section 715.5.4 to be exempt from meeting NFPA 257 or UL 9 acceptance criteria
- **2015 IBC Language**
  - IBC 716.6 – Requires fire-protection-rated glazing tested to and meeting the acceptance criteria of NFPA 257 or UL 9
  - IBC 716.6.4 – Requires glazing in fire window assemblies to be fire-protection-rated glazing installed in accordance with and comply with the size limitations set forth in NFPA 80
  - IBC 716.6.8 – Requires marking of glazing to comply with Table 716.6 for fire window assemblies

## IBC 2009 Exception 715.5.4

Wire glass  
exception out, all  
glazing in fire rated  
assemblies needs  
to be listed and  
labeled



# Changes to IBC Chapter 7

## Fire Window Assembly Protection Ratings

- 2015 IBC Language

- IBC Table 716.6 – In addition to the fire window assembly fire protection ratings that were provided in Table 715.5 of the 2009 edition, this table now identifies the markings required on the fire-rated glazing

**TABLE 716.6**  
**FIRE WINDOW ASSEMBLY FIRE PROTECTION RATINGS**

TYPE OF WALL ASSEMBLY	REQUIRED WALL ASSEMBLY RATING (hours)	MINIMUM FIRE WINDOW ASSEMBLY RATING (hours)	FIRE-RATED GLAZING MARKING
Interior walls			
Fire walls	All	NP <sup>a</sup>	W-XXX <sup>b</sup>
Fire barriers	>1	NP <sup>a</sup>	W-XXX <sup>b</sup>
	1	NP <sup>a</sup>	W-XXX <sup>b</sup>
Incidental use areas (Section 707.3.7), Mixed occupancy separations (Section 707.3.9)	1	$\frac{3}{4}$	OH-45 or W-60
Fire partitions	1	$\frac{3}{4}$	OH-45 or W-60
	0.5	$\frac{1}{3}$	OH-20 or W-30
Smoke barriers	1	$\frac{3}{4}$	OH-45 or W-60
Exterior walls	>1	$1\frac{1}{2}$	OH-90 or W-XXX <sup>b</sup>
	1	$\frac{3}{4}$	OH-45 or W-60
	0.5	$\frac{1}{3}$	OH-20 or W-30
Party wall	All	NP	Not Applicable

NP = Not Permitted.

a. Not permitted except fire-resistance-rated glazing assemblies tested to ASTM E 119 or UL 263, as specified in Section 716.2.

b. XXX = The fire rating duration period in minutes, which shall be equal to the *fire-resistance rating* required for the wall assembly.

# Changes to IBC Chapter 7

## Ducts and Air Transfer Openings (Scope)

- 2009 IBC Language
- **IBC 716.1** – States that Section 716 governs:
  - protection of ducts and air transfer opening in assemblies required to be protected
- 2015 IBC Language
- **IBC 717.1** – States that Section 717 governs:
  - protection of ducts and air transfer opening in assemblies required to be protected
  - protection of duct penetrations in nonfire-resistive-rated floor assemblies

(This change is a clarification. Language has been changed to more accurately describe the scope of this section. The scope of the section itself has not changed.)

# Changes to IBC Chapter 7

## Corridor Dampers

- 2015 IBC Language

- **717.3.1 Damper Testing. Item 5**

Corridor dampers shall comply with requirements of both UL 555 & UL 555S. Corridor dampers shall demonstrate acceptable closure performance when subjected to 150 ft. per minute velocity across the face of the damper during the UL 555 fire exposure test.

- **717.3.2.4 Corridor damper ratings.**

Corridor dampers shall have the following minimum ratings:

1. One hour fire-resistance rating.
2. Class I or II leakage rating as specified in Section 717.3.2.2.

# Changes to IBC Chapter 7

## Smoke Damper Actuation

- **New SPS Language**
- **SPS 362.0717 (1)** – Adds to IBC 717.3.3.2 a sixth method of smoke damper actuation that requires:
  - Duct smoke detector (or sampling tube) in supply air duct downstream of air handling equipment and filters but ahead of branches
  - Return air duct smoke detectors (or sampling tubes) within 5 ft. of each return air smoke damper with no intervening air inlets or outlets
  - All supply and return smoke dampers close when any duct smoke detector is in alarm
  - Other than in mechanical smoke control systems, dampers close upon fan shutdown where local smoke detectors require a minimum velocity to operate

# Changes to IBC Chapter 7

## Ducts Transitioning Between Shafts

- 2009 IBC Language
  - IBC 716.5.3 – Requires duct penetrations and air transfer openings in shaft enclosures to be protected with fire and smoke dampers unless an exception is met.
- 2015 IBC Language
  - IBC 717.5.3 – Same requirements as 2009 IBC 716.5.3
  - IBC 717.1.1 – Provides clarification that ducts transitioning horizontally between shafts do not require a shaft enclosure provided that the duct penetration into each associated shaft is protected with dampers complying with Section 717



# Changes to IBC Chapter 7

## Ducts and Air Transfer Openings (Fire Partitions)

- 2015 IBC Language
- IBC 717.5.4 Exception 4 – Allows omission of fire dampers where ducts or air transfer openings penetrate fire partitions in non-Group H occupancies where all of the following occur:
  - Rating of wall is  $\leq$  1-hour
  - NFPA 13 or 13R sprinkler system throughout building
  - Duct is supply, return, or exhaust for structure's HVAC
  - Duct is  $\geq$  26 gage metal
  - Duct continuous from appliance or equipment to air terminal

# Changes to IBC Chapter 7

## Duct and Air Transfer Openings (Corridors)

- **2009 IBC Language**
  - **716.5.4.1 Corridors.** A listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a corridor enclosure required to have smoke and draft control doors in accordance with Section 715.4.3
- **2015 IBC Language**
  - **717.5.4.1 Corridors.** Duct and air transfer openings that penetrate corridors shall be protected with dampers as follows:
    1. A corridor damper shall be provided where corridor ceilings, constructed as required for the corridor walls as permitted in Section 708.4, Exception 3, are penetrated.
    2. A ceiling radiation damper shall be provided where the ceiling membrane of a fire-resistance-rated floor-ceiling or roof-ceiling assembly, constructed as permitted in Section 708.4, Exception 2, is penetrated.

*[Continued on next slide]*

# Changes to IBC Chapter 7

## Duct and Air Transfer Openings (Corridors) cont'd

- **2009 IBC Language**
  - **716.5.4.1 Corridors (continued)**

**Exceptions:**

    1. Smoke dampers are not required where the building is equipped throughout with an approved smoke control system in accordance with Section 909, and smoke dampers are not necessary for the operation and control of the system.
    2. Smoke dampers are not required in corridor penetrations where the duct is constructed of steel not less than 0.019 inch (0.48 mm) in thickness and there are no openings serving the corridor.
- **2015 IBC Language**
  - **717.5.4.1 Corridors (continued)**
    3. A listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a corridor enclosure required to have smoke and draft control doors in accordance with Section 716.5.3.
  - **Exceptions:** (Same as 2009 IBC 716.5.4.1)

# Changes to IBC Chapter 7

## Smoke Damper Exception for I-2 Occupancy

- **Old SPS Language**
  - SPS 362.0716(2) SMOKE DAMPERS IN HEALTH CARE FACILITIES. This is a department exception to the requirements in IBC section 716.5.5: Smoke dampers are not required in Group I-2 duct penetrations of smoke barriers in fully ducted HVAC systems.
- **2015 IBC Language**
  - IBC 717.5.5 Exception 2 – Allows smoke dampers to be omitted in smoke barriers required by Section 407.5 for Group I-2, Condition 2 where all of the following occur:
    - HVAC system is fully ducted
    - NFPA 13 sprinkler system installed throughout building
    - Quick-response sprinklers in accordance with Section 903.3.2

# Changes to IBC Chapter 7

## Duct Outlet Protection Systems

- 2015 IBC language
- IBC 717.6.2.1 Item 3 – Under this exception ceiling radiation dampers are not required where duct and air transfer openings are protected with a duct outlet protection system tested as part of a fire-resistance-rated assembly in accordance with ASTM E 119 or UL 263.

# Changes to IBC Chapter 7

## Duct Penetrations of Non-rated Floors

- 2009 IBC Language
  - IBC 716.6.3 method 3 – The duct connects not more than three stories, the annular space around the penetrating duct is protected with an approved noncombustible material that resists the free passage of flame and the products of combustion and a fire damper is installed at each floor line.
- 2015 IBC Language
  - IBC 717.6.3 method 3 – **In floor assemblies composed of noncombustible materials, a shaft shall not be required where** the duct connects not more than three stories, the annular space around the penetrating duct is protected with an approved noncombustible material that resists the free passage of flame and the products of combustion and a fire damper is installed at each floor line.

# Changes to IBC Chapter 7

## Fireblocking

- 2015 IBC Language
- IBC 718.2.1 Item 8 – Allows the use of cellulose insulation as fireblocking provided it is installed as tested for the specific application
- 718.2.6 Exception 3 – Allows fireblocking to be omitted in concealed spaces of exterior wall covering if the covering complies with the acceptance criteria and is tested and installed in accordance with NFPA 285

# Changes to IBC Chapter 7

## Prescriptive Fire Resistance (Wall Studs)

- 2015 IBC Language
- IBC Table 721.1(2) Footnote m – Requires the design stress of studs in certain prescriptive fire-resistive wall and partition assemblies to be reduced to 78% of allowable or adjusted compression stress depending on the slenderness ratio.

Footnote m reads: “For studs with a slenderness ratio,  $l_e/d$ , greater than 33, the design stress shall be reduced to 78 percent of allowable  $F'_c$ . For studs with a slenderness ratio,  $l_e/d$ , not exceeding 33, the design stress shall be reduced to 78 percent of the adjusted stress  $F'_c$  calculated for studs having a slenderness ratio  $l_e/d$  of 33.” And applies to item numbers 12-1.1, 14.1.1 to 14-1.3, 14-1.5, 15-1.1 to 15-1.3, 15-1.5 to 15-1.8 of Table 721.1(2).



# Changes to IBC Chapter 7

## Calculated Fire Resistance

- 2015 IBC Language

- IBC Tables 722.5.1(1) and 722.5.1(4) – Contour profile values have been revised for these weight-to-heated-perimeter ratio tables for steel columns, wide flange beams and girders
- IBC 722.5.1.2.1 and Figures 722.5.1(2) and 722.5.1(3) – Gypsum panel products in accordance with ASTM C1177, C1178, C1278, C1658 have been added as a fire-resistive material to protect steel columns and steel columns with sheet steel covers
- IBC Tables 722.6.2(3) and 722.6.2(4) – ¼-inch-thick fiber-cement products have been added respectively to these tables as exterior finish and underlayment materials
- The 2009 IBC 721.6.3 to 721.6.3.4 provisions relating to the design of fire-resistant exposed timber beams and columns are deleted in the 2015 IBC

# 2015 IBC Chapter 9

## Fire Protection Systems



***Transition from 2009 to 2015 IBC,  
Significant Changes in Chapter 9***

# SPS 362.0903 Sprinkler Requirement Changes

- (12) Upholstered Furniture Storage specific requirement deleted.
- (15) Fairground Buildings at State Fair exempt.
- (16) Floor levels below Assembly Occupancies on Roofs exempt.
- (18) Buildings without access to municipal water exempt with alternative approval requirements.

# SPS 362.0903(18)

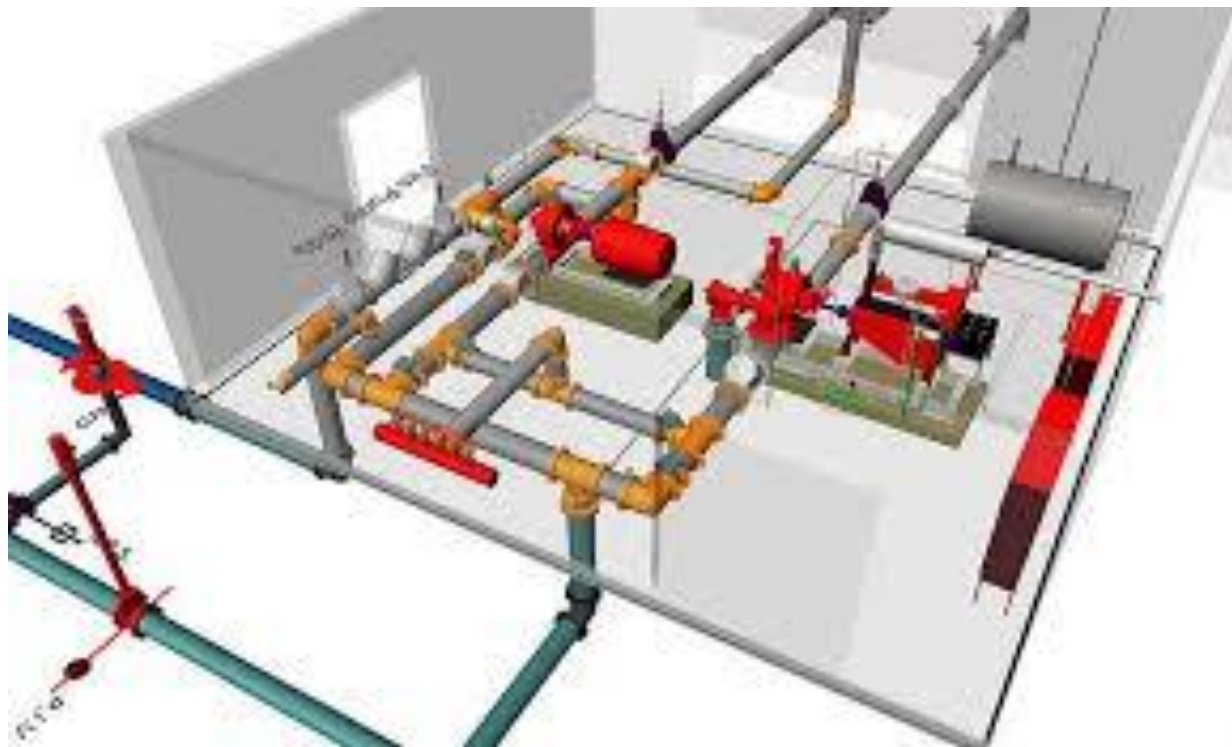
- Buildings without access to municipal water
- Exempt from automatic fire sprinkler requirements.
  - A2 Occupancies where:
    - Fire area does not exceed 12,000 SF
    - Occupant load does not exceed 300
    - Fire area is located on a floor with exit discharge serving the occupancy.
  - A2 repurposed farm occupancies
  - A3 religious worship occupancies
  - R or A cabin or camp lodge buildings

# 2015 IBC Chapter 9

## Fire Protection Systems



- **901.8 Pump and Riser Room Size**



# 2015 IBC Chapter 9

## Fire Protection Systems



- **901.8 Pump and Riser Room Size**

- Where provided, fire pump rooms and automatic sprinkler system riser rooms shall be designed with adequate space for all equipment necessary for the installation, as defined by the manufacturer, with sufficient working room around the stationary equipment. Clearances around equipment to elements of permanent construction, including other installed equipment and appliances, shall be sufficient to allow inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire resistance rated assembly. Fire pump and automatic sprinkler system riser rooms shall be provided with a door(s) and unobstructed passageway large enough to allow removal of the largest piece of equipment.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is a **new** section to the code addressing the design and size of spaces for fire pumps and system riser equipment.*

*This section was first incorporated in the 2012 IBC and carries over to the 2015 edition.*

*The section doesn't require the construction of a room to house fire pumps and system risers but if a room is provided it has to be adequately sized.*

*The requirements are not specific but **the room must have a doors and unobstructed passageways large enough to remove and replace the largest piece of equipment and provide necessary working clearances.***

# 2015 IBC Chapter 9

## Fire Protection Systems



### **903.2.1.1 Group A-1. through 903.2.1.4 Group A-4**

For Group A-1, A-2, A-3 and A-4 occupancies, the *automatic sprinkler system* shall be provided throughout the story where the *fire area* containing the Group A-1, A-2, A-3 or A-4 occupancy is located, and throughout all stories from the Group A occupancy to, and including, the *levels of exit discharge* serving the Group A occupancy.



# 2015 IBC Chapter 9

## Fire Protection Systems



### *Commentary:*

*This is a modification that was incorporated in the 2012 IBC. There is a change in the wording to include intervening floors between the Group A occupancies and the level of exit discharge.*

*Group A occupancies are characterized by a significant number of people who are not familiar with their surroundings. The requirement for a suppression system reflects the additional time needed for egress.*

*The protection is intended to extend to the occupants of the assembly group from unobserved fires in other building areas located between the story containing the assembly occupancy and the levels of exit discharge serving such occupancies.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **SPS 262.0903 (16) Not included in this code.**
- **903.2.1.6 Assembly Occupancies on Roofs**
  - Where an occupied roof has an assembly occupancy *with an occupant load exceeding 100* for Group A-2 and 300 for other Group A occupancies, all floors between the occupied roof and the *level of exit discharge* shall be equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
  - Exception: Open parking garages of Type I or Type II construction.

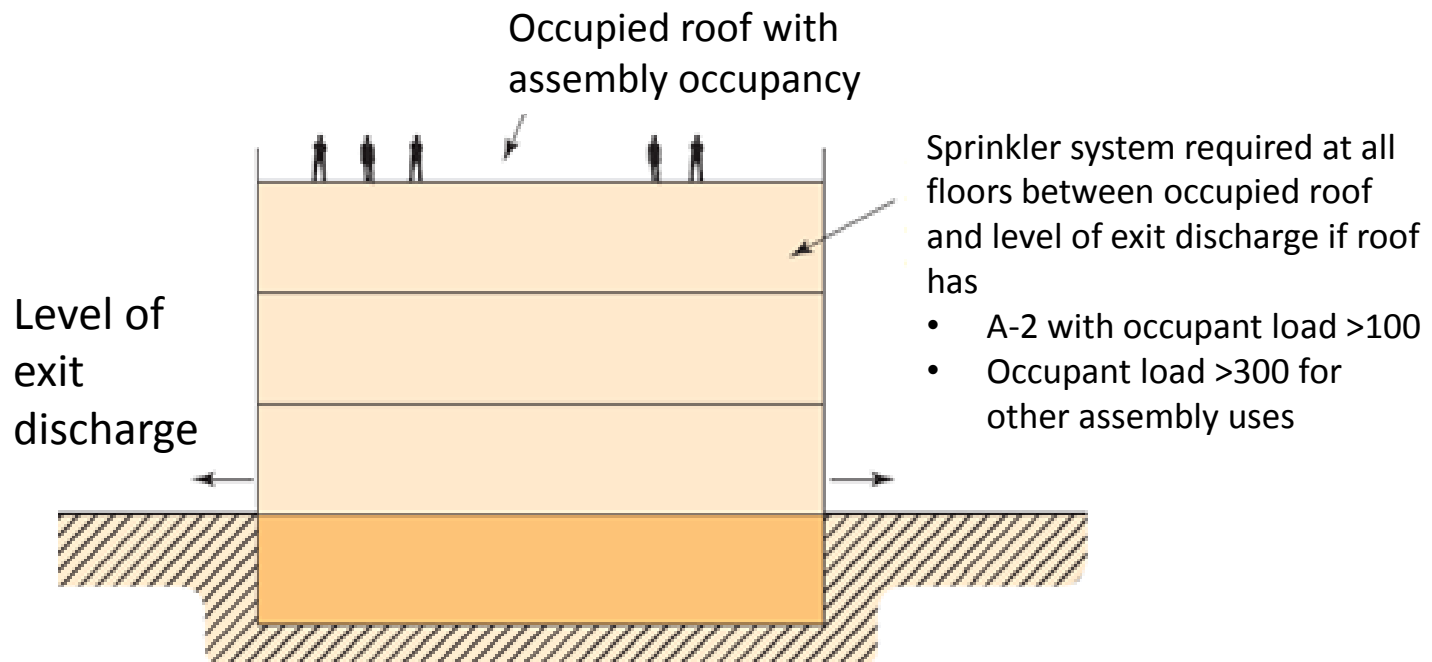


# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.2.1.6 Assembly Occupancies on Roofs (SPS Exempted)**
- **Not required.**



# 2015 IBC Chapter 9

## Fire Protection Systems



### **Commentary:**

*This is a **new** section to the code. An automatic sprinkler system is now required to be installed in buildings when the roof is used for a Group A-2 assembly occupancy (restaurants and bars) with an occupant load exceeding 100, as well as for other Group A (meeting rooms, swimming pools) occupancies where the occupant load exceeds 300.*

*All the floors to, and including, the level of exit discharge are required to be sprinklered per NFPA 13 or 13R, as applicable.*

*Since all new Group R occupancies are already required to have sprinklers the new requirement is a clarification for such common assembly occupancies that are located on roofs of new apartment projects.*

*There is an exception to the sprinkler requirement for open parking garages of Type I or Type II construction.*

# 2015 IBC Chapter 9

## Fire Protection Systems



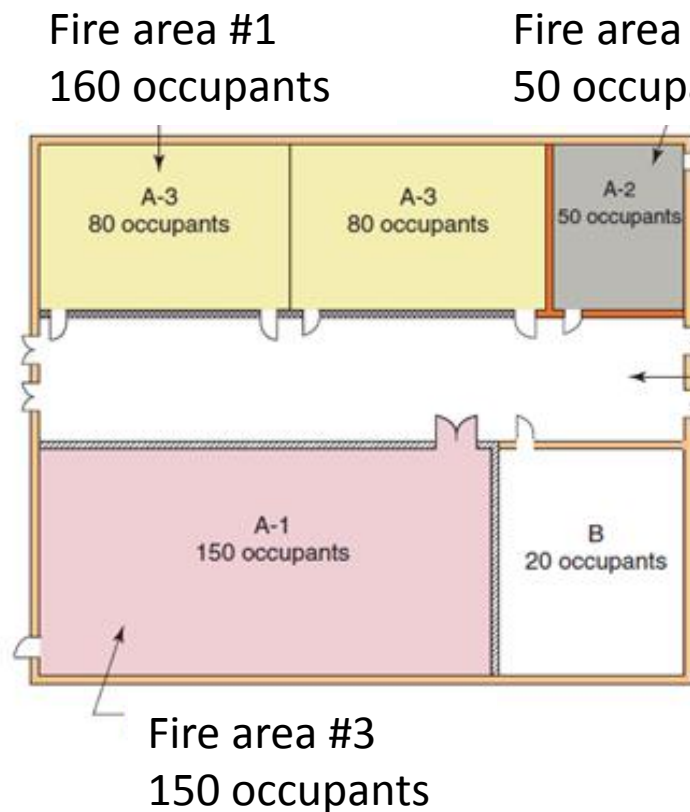
- **903.2.1.7 Multiple Fire Areas**
  - An automatic sprinkler system shall be provided where multiple fire areas of Group A-1, A-2, A-3 or A-4 occupancies share exit or exit access components and the combined occupant load of these fire areas is 300 or more.

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.2.1.7 Multiple Fire Areas (continued)**



### 903.2.1.7 Multiple Fire Areas

Common egress system serving 300 or more occupants in Group A fire areas

Automatic sprinkler system required throughout story (Sections 903.2.17 and 903.2.1)

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is a **new** section to the code. Where small Group A areas share a common means of egress, the occupant loads of the spaces must be added together to determine if a sprinkler system is required. If the combined load is 300 or more, then a sprinkler system is required.*

### **Example:**

- *A-1 typically with fixed seating, like a movie theater*
- *A-2 restaurant or bar*
- *A-3 Exhibition Hall or Museum*

*In the example the load adds up to 380, so a sprinkler system would be required.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.2.2 Ambulatory Care Facilities.**
  - An automatic sprinkler system shall be installed throughout the entire floor containing an ambulatory care facility where either of the following conditions exist at any time:
    1. Four or more care recipients are incapable of self-preservation, whether rendered incapable by staff or staff has accepted responsibility for care recipients already incapable.
    2. One or more care recipients that are incapable of self-preservation are located at other than the level of exit discharge serving such a facility.



# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is a modification that was incorporated in the 2012 IBC. It modified the sprinkler requirements for Group B ambulatory care facilities to be regulated on a floor-by-floor basis.*

*It requires sprinklers to be installed throughout the **entire floor** containing ambulatory care facilities.*

*The 2009 IBC, limited the sprinkler requirement to the **fire areas** with ambulatory care facilities.*

*These are new sprinkler coverage requirements for Group B Ambulatory Care Facilities. If the floor containing the facilities is above the level of exit discharge, the entire care floor and all the floors below must be provided with sprinklers to facilitate egress from the floor.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.2.4 Group F-1, Factory/Industrial**
  - An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:
    - 4. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeding 2,500 sq. ft.. (232 m<sup>2</sup>).

SPS 362.0903(12)

IBC 903.2.9 condition 5 is

Not included as part of this code.



# 2015 IBC Chapter 9

## Fire Protection Systems



- SPS 362.0903(5)(b)1.
- In accordance with State Statute 101.14
  - Sprinklering is not required until 16,000 SF or 20 units.
  - Impacts to construction, exiting distance, and other trade-offs not determined at this time.

# Residential Sprinkler



Less than 20 units or  
16,000 SF – Sprinklering  
not required



More than 20 units or  
16,000 SF- Sprinklers  
required

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.2.9 Group S-1 - Storage**

- An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:
  - 5. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeding 2,500 sf. (232 m<sup>2</sup>).

**Note:** *See SPS 362.0903(12) and commentary on next slide.*



Wisconsin Department of Safety and  
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# 2015 IBC Chapter 9

## Fire Protection Systems



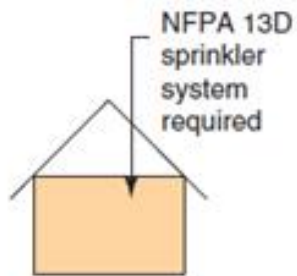
- **903.2.8 Group R-4 Occupancies**
  - Sprinkler requirements for Group R-4 occupancies are now dependent on the capabilities of the occupants. In buildings where occupants require limited assistance when responding to an emergency condition, additional sprinkler are required for attic spaces.

# 2015 IBC Chapter 9

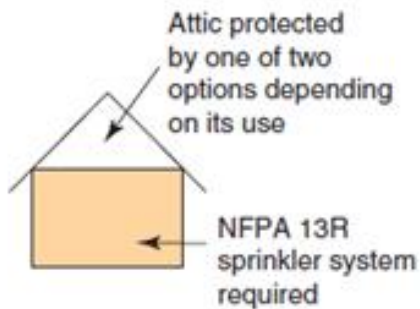
## Fire Protection Systems



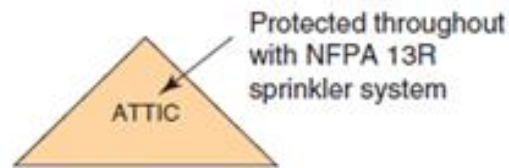
- **903.2.8 Group R-4 Occupancies (continued)**



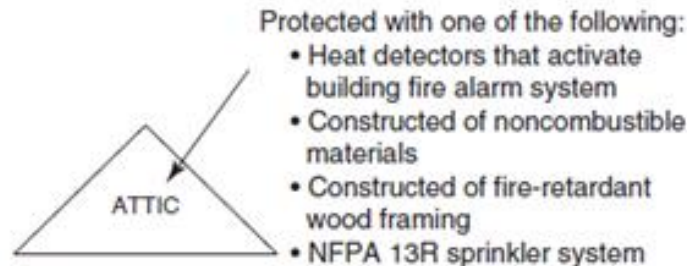
R-4 Condition 1



R-4 Condition 2



(a) Attic used for living purposes, storage or fuel-fired equipment



(b) Attic not used for living purposes, storage or fuel-fired equipment

R-4 Condition 2  
attic protection options



# 2015 IBC Chapter 9

## Fire Protection Systems



### *Commentary:*

*This is a 2015 **modification** from previous editions of the code. The section modified sprinkler requirements for Group R-4 occupancies based on the occupants' ability to respond to an emergency. It requires sprinklers in Condition 2 occupancies to be per NFPA 13R rather than NFPA 13D and also requiring attics in condition 2 occupancies to be either protected by an automatic sprinkler system, or by other methods, based on the use of the attic.*



# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Notes from SFPE Article in Emerging Trends e-newsletter:***

*Both Group I-1 and Group I-2 will now have condition 1 and condition 2, based on the type of care, level of care and the occupant's capability for self-evacuation. In the case of Group I-1, condition 1 denotes facilities where the occupants are capable of evacuation without assistance. Condition 2 occupants require some assistance during evacuation.*

*Generally, the requirements for condition 2 are more restrictive than condition 1. In the case of Group I-2 occupancies, the two conditions are used to separate those types of facilities with ongoing nonsurgical care such as nursing homes (condition 1) and those that perform surgeries or procedures such as hospitals (condition 2). The condition 1 and condition 2 terminology will be used where the requirements differ. If the requirement is generally applicable, the requirement will have a general reference to Group I-1 or I-2.*

*There were also several significant revisions with regard to Group I-2 hospitals (condition 2). The smoke compartment size for Group I-2 hospitals was increased from 22,500 square feet (2,090 m<sup>2</sup>) to 40,000 square feet (3,700 m<sup>2</sup>). In addition, smoke dampers in smoke barriers were eliminated where a fully ducted system is provided.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.2.11.1.3 Basements.**
  - Where any portion of a basement is located more than 75 feet from openings required by Section 903.2.11.1, or where walls, partitions or other obstructions are installed that restrict the application of water from hose streams, the basement shall be equipped throughout with an automatic sprinkler system.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is a revision from the 2012 IBC requiring sprinkler systems to be installed in areas where obstructions such as walls, partitions or fixtures are introduced that could obstruct the application of hose streams from the exterior.*

*Where there are walls or partitions in a basement the ability to apply hose streams through an exterior opening to reach the entire basement area is reduced or eliminated.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.2.11.2 Rubbish and Linen Chutes**
- An automatic sprinkler system shall be installed at the top of rubbish and linen chutes in their terminal rooms. Chutes shall have additional sprinklers installed at alternate floors and at the lowest intake. When a rubbish chute extends through a building more than one floor below the lowest intake, the extension shall have sprinklers installed which are recessed from the drop area of the chute and protected from freezing in accordance with Section 903.3.1.1. Such sprinklers shall be installed at alternate floors beginning with the second level below the last intake and ending with the floor above the discharge. Chute sprinklers shall be accessible for servicing.



**Note:** See SPS 362.0903(13) on next slide.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is a modification from the 2012 IBC.*

*Sprinkler provisions for rubbish and linen chutes have been clarified for consistency of application.*

*Also, per SPS 362.0903(13):*

**(13)** RECYCLING CHUTES. The requirements of IBC section 903.2.11.2 shall apply to recycling chutes in addition to rubbish and linen chutes.

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.3.1.1.1 Exempt Locations**
  - Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion.
  - 6. Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008.

# 2015 IBC Chapter 9

## Fire Protection Systems



### **Commentary:**

*This Section allows the omission of sprinkler protection in certain areas if an approved fire detection system is installed. **Item 6** is new in IBC Chapter 9 but is a clarification of the requirements already existing in IBC Section 3008.*

*Fire service access and occupant evacuation elevators need to work during fire situations and their operation cannot be threatened by the activation of a sprinkler in a machine room or space that may affect the operation of the elevator.*

***Therefore new exempt sprinkler locations have been added to protect the elevator hoistway.***

- ***Machine rooms***
- ***Machinery spaces***
- ***Control rooms***
- ***Control spaces***

***Note that this not applicable to all elevators, only elevator that are to be used for occupant evacuation.***

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.3.1.1.2 Bathrooms**





# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.3.1.1.2 Bathrooms**

- In Group R occupancies, other than R-4 occupancies, sprinklers shall not be required in bathrooms that do not exceed 55 sf in area and are located within individual dwelling units or sleeping unit, provided that walls and ceilings, including the walls and ceilings behind the shower enclosure or tub, are of non-combustible or limited-combustible materials with a 15-minute thermal barrier rating.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is new in the 2015 IBC. Modified requirements for sprinkler systems in Group R occupancies (other than Group R-4) by providing and exemption in bathrooms as had been previously allowed under the 2007 edition of NFPA 13 but is no longer included in the 2013 edition.*

*The 2013 edition of NFPA changes the wording so that the exemption in bathrooms would apply only to those in hotels and motels. The thinking is that bathrooms in apartments have over time become places where combustible storage is more commonplace.*

*In the end, the 2013 edition of NFPA 13 limits the exemption to hotels and motels but the 2015 IBC expands it right back.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.3.1.2 NFPA 13R Sprinkler Systems**
  - Automatic sprinkler systems in Group R occupancies up to and including four stories in height in buildings not exceeding 60 feet in height above grade plane shall be permitted to be installed throughout in accordance with NFPA 13R.
  - The number of stories of Group R occupancy constructed in accordance with Sections 510.2 and 510.4 shall be measured from the horizontal assembly creating separate buildings.



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# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*The new words in this section are “buildings not exceeding 60 feet in height above grade plane”.*

*For example, in a building with a Group R occupancy sitting on top of a parking garage or commercial spaces, you can have up to 4 stories of Group R occupancy where the stories are measured from the horizontal separation between the occupancies AND the building cannot exceed 60 feet in height measured from the grade plane to the top of the building.*

*This section was revised to correlate with the scope of 2013 edition of NFPA 13R. The new second paragraph in this section clarifies that the number of stories of Group R occupancies above a podium or pedestal designed structure is measured from the fire-rated horizontal separation that creates separate buildings.*

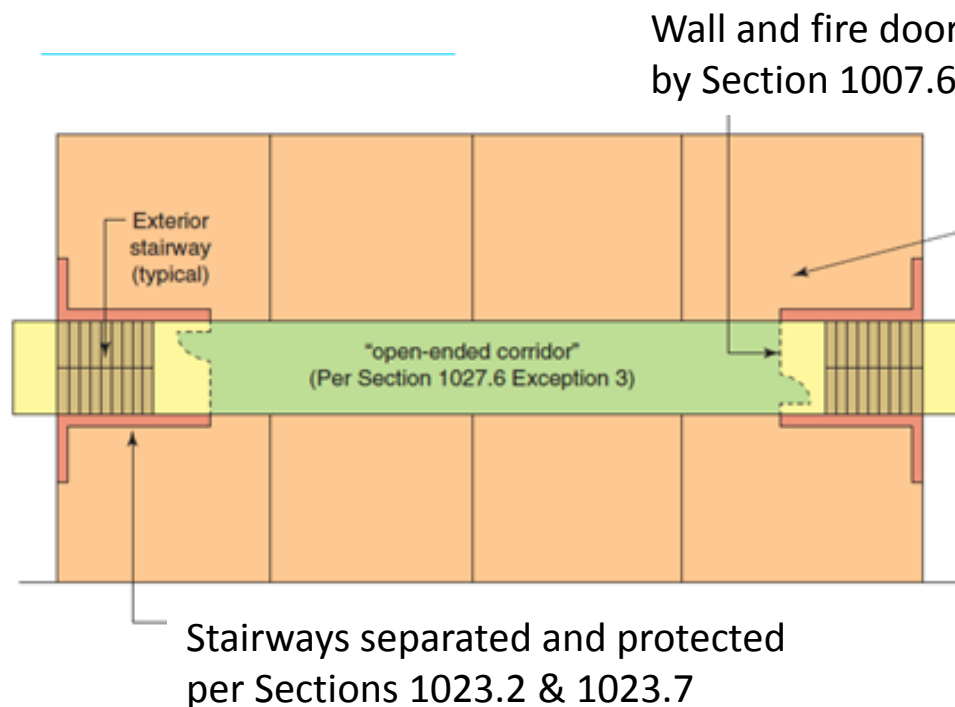
# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.3.1.2.2 Open-ended Corridors**

- Sprinkler protection shall be provided in open-ended corridors and associated exterior stairways and ramps as specified in Section 1027.6, Exception 3.



Open-ended corridors are permitted provided:

- 1) Building is sprinklered throughout (NFPA 13 or 13R System)

- 2) Specific provision in Section 903.3.1.2.2. requires that sprinklers must be provided in the open ended corridors and associated exterior stairway (Overrides general NFPA 13R exemption for these areas)

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*NFPA 13R has an exemption in Section 6.9.5 that says sprinklers are not required in any porches, balconies, corridors and stairs that are open and attached. This IBC requirement overrides the exception.*

*Where an NFPA 13R sprinkler system is installed, the sprinkler protection must now be extended to any open-ended corridors and associated exterior stairways, clarifying that an open breezeway is considered as an interior portion of the building and not an exterior location.*

*Again, this overrides the general NFPA 13R exemption for these areas.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **903.3.5 Water Supplies**
  - Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with the requirements of this section and the International Plumbing Code. For connections to public water works, the water supply test used for design of fire protection systems shall be adjusted to account for seasonal and daily pressure fluctuations based on information from the water supply authority and as approved by the fire code official.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*The 2015 IBC added a new last sentence in the paragraph to clarify that flow tests for the design of the sprinkler system needs to be adjusted for seasonal and daily pressure fluctuations.*



# 2015 IBC Chapter 9

## Fire Protection Systems



- **SPS 362.0903(17) Substitute six for 20.**
- **903.3.8 Limited Area Sprinkler Systems**
  - Limited area sprinkler systems shall not exceed ~~six~~(20) sprinklers in any single fire area.
  - Only areas classified as Light Hazard or Ordinary Hazard Group I shall be permitted to be protected by limited area sprinkler systems.
  - Where a limited area sprinkler system is installed in a building with an automatic wet standpipe system, sprinklers shall be supplied by the standpipe system. Where installed in a building without an automatic wet standpipe system, water shall be permitted to be supplied by the domestic water service provided it's capable of simultaneously supplying domestic and sprinkler demands.

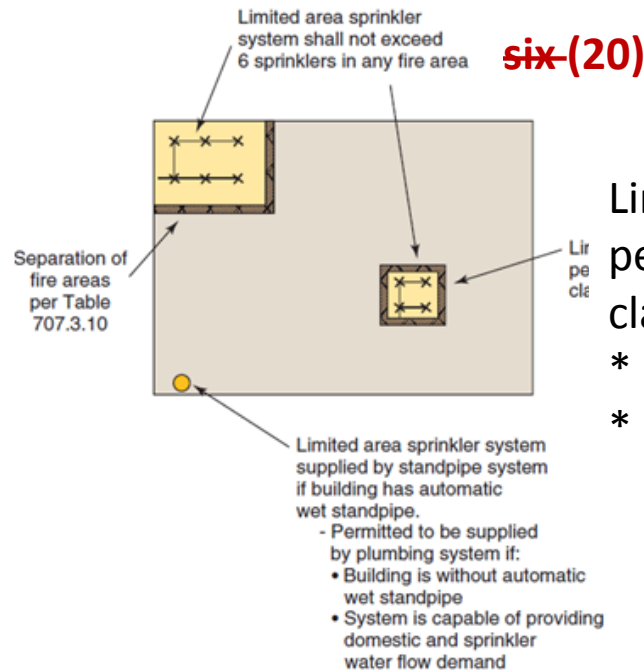
# 2015 IBC Chapter 9

## Fire Protection Systems



- **SPS 362.0903(17) Substitute six for 20.**
- **903.3.8 Limited Area Sprinkler Systems**

Separation of fire areas per Table 707.3.10



Limited area sprinkler system permitted only in areas classified by NFPA 13 as:

- \* Light hazard
- \* Ordinary hazard (Group 1)

Limited area sprinkler system shall not exceed ~~six~~ (20) sprinkler in any fire area

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*SPS language retains the 20 number for the limited area sprinklers.*

*The limited area system can be supplied by a standpipe system if the building has an automatic wet standpipe.*

*It can be supplied by the plumbing system if:*

- *There is no automatic wet standpipe*
- *The plumbing system is capable of providing domestic and sprinkler demands.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **904.3.2 Actuation**

- Automatic fire-extinguishing systems shall be automatically actuated and provided with a manual means of actuation in accordance with Section 904.11.1. Where more than one hazard could be simultaneously involved in a fire due to their proximity, all hazards shall be protected by a single system designed to protect all hazards that could be involved.
- Exception: Multiple systems shall be permitted to be installed if they are designed to operate simultaneously.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*The 2012 IBC modified the requirements with the addition of the second sentence. The new requirement prescribes that when multiple adjacent hazards are required to be protected, they must be protected by a single fire extinguishing system.*

*The exception allows for multiple system installations to protect such hazards but requires the simultaneous discharge of all systems.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **904.11 Automatic Water Mist Systems**
  - Automatic water mist systems shall be permitted in applications that are consistent with the applicable listing or approvals and shall comply with Sections 904.11.1 through 904.11.3



# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*Automatic water mist systems are now formally recognized as an automatic fire extinguishing system within Chapter 9 of the IBC (and International Fire Code). Such systems are allowed where consistent with their testing and listing requirements. The requirements provide provisions for installation (NFPA 750), testing, monitoring, control valves and related requirements.*

*It should be noted that such systems cannot be considered as alternatives to automatic sprinkler systems from the perspective of allowing reductions or exceptions to other code requirements, such as increases for area and height.*

*This was something that was covered in the Wisconsin Administrative Code which required water mist systems to comply with NFPA 750.*

*Now that it's included in IBC it will likely be removed from the Admin Code.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **905.3.8 Rooftop Gardens and Landscaped Roofs**
  - Buildings or structures that have rooftop gardens or landscaped roofs and that are equipped with a standpipe system shall have the standpipe system extended to the roof level on which the rooftop garden or landscaped roof is located.





# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*Section 905.3 covers required installations for standpipe systems. And under this section there is a new section introduced in the 2012 IBC requiring the standpipe in a building to extend to the roof under the circumstances.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **SPS 362.0904(3) 904.13, 904.13.1 and 904.13.2 are not included in this code.**
- **904.13 Domestic cooking systems in Group I-2 Condition 1.**

In Group I-2 Condition 1, occupancies where cooking facilities are installed in accordance with Section 407.2.6 of this code, the domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment.

Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A and listed and labeled for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.

# 2015 IBC Chapter 9

## Fire Protection Systems



- **904.13.1 Manual system operation and interconnection.**

Manual actuation and system interconnection for the hood suppression system shall be installed in accordance with Sections 904.12.1 and 904.12.2, respectively.

- **904.13.2 Portable fire extinguishers for domestic cooking equipment in Group I-2 Condition 1.**

A portable fire extinguisher complying with Section 906 shall be installed within a 30 ft. (9144 mm) distance of travel from domestic cooking appliances.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is a **new** section to the code addressing the fire extinguishing requirements for domestic cooking facilities with hoods in Group I-2 Condition 1 occupancies (nursing homes).*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **905 Standpipe Systems**
- **905.2 Installation standard.**

Standpipe systems shall be installed in accordance with this section and NFPA 14. Fire department connections for standpipe systems shall be in accordance with Section 912.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is a update to this section addressing the requirement for Fire Department Connections to adhere to section 912.*

# 2015 IBC Chapter 9

## Fire Protection Systems



### 905.4 Location of Class I Standpipe Hose Connection (roof hose connections)

Class I standpipe hose connections shall be provided in all the following locations:

1. In every required *interior exit stairway*, a hose connection shall be provided for each story above and below grade. Hose connections shall be located at an intermediate landing between stories, unless otherwise *approved* by the fire code official.
5. Where the roof has a slope of less than four units vertical in 12 units horizontal (33.3 % slope), a hose connection shall be located to serve the roof or at the highest landing of an interior exit stairway with access to the roof provided in accordance with Section 1011.12.



# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This section covers the requirements for locating Class I standpipe hose connections.*

*Item 1 is an update to this section addressing the additional wording defining the type and location of the stairway.*

*Items 2 thru 4 and Item 6 are essentially unchanged. The big change here is Item 5 which has the requirements for roof hose connections.*

*The requirement for hose connections on the roof is intended to aid in the suppression of roof fires, either because of the nature of the construction of the roof or the equipment on the roof, as well as for exposure protection.*

*The wording in the 2009 IBC says “each standpipe” shall be provided with a hose connection on the roof or at the highest landing.*

*The requirement were modified in the 2012 IBC to state that a hose connection shall be located to serve the roof (on the roof) or at the highest landing of an interior stair so there is no longer a requirement to provide a hose connection for each standpipe. Item 5 requires only one standpipe to extend to the roof level or highest landing of the stairway serving the roof.*



# 2015 IBC Chapter 9

## Fire Protection Systems



- **SECTION 906 PORTABLE FIRE EXTINGUISHERS**

### **906.1 Where required.**

Portable fire extinguishers shall be installed in all of the following locations:

1. In Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is an update to this section clarifying that fire extinguishers shall be installed in ALL these locations.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **907.2.1 Group A Occupancies**

- A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more. Group A occupancies not separated from one another in accordance with Section 707.3.10 shall be considered as a single occupancy for the purposes of apply this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

# 2015 IBC Chapter 9

## Fire Protection Systems



### **Commentary:**

*The 2012 IBC modified the wording of this section by adding the second sentence “Group A occupancies not separated from one another in accordance with Section 707.3.10 shall be considered as a single occupancy for the purposes of apply this section”.*

*The wording was revised to clarify what occupant load is appropriate to use when determining the fire alarm requirements for Assembly occupancies. That is to say, if you have multiple Group A occupancies that do not have adequate fire rated separation, you have to add the occupant loads together. If the load is 300, or more, a manual fire alarm system is required.*

*There is still the exception that states the manual fire alarm pull stations are not required where the building is protected throughout with an automatic sprinkler system that will activate the notification appliances upon sprinkler water flow.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **907.2.1.2 Emergency Voice/Alarm Communication Captions**
  - Stadiums, arenas and grandstands required to capture audible public announcements shall be in accordance with Section 907.5.2.2.4.



# 2015 IBC Chapter 9

## Fire Protection Systems



### *Commentary:*

*This section was added in the 2012 IBC. It adds a requirement for captioned messages of audible public announcements when mass notification fire alarm signals are required.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **907.2.3 Fire Alarms – Group E**

**Emergency voice/alarm communication system** meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in **Group E** occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building alarm system.

2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*The previous slide shows the wording from the 2015 IBC. There are a few changes that happened here. The 2012 IBC added a requirement for an Emergency Voice Alarm Communication (EVAC) system in Group E occupancies with an occupant load of 30 or greater.*

*The 2015 IBC modified the threshold for alarm systems in Group E occupancies such an emergency voice/alarm system is required when the occupant load exceeds 100.*

*So the threshold to install an EVAC system in Group E occupancies changed from an occupant load of 30 or more to 100 or more.*

*The intent was to exempt small one- and two-room schools from having to install an EVAC system.*



# 2015 IBC Chapter 9

## Fire Protection Systems



- **907.2.9.3 Group R-2 College and University Buildings**



# 2015 IBC Chapter 9

## Fire Protection Systems



- **907.2.9.3 Group R-2 College and University Buildings**
- An automatic detection system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies operated by a college university of student or staff housing in all the following locations:
  1. Common spaces outside of dwelling units and sleeping units.
  2. Laundry rooms, mechanical equipment rooms and storage rooms.
  3. All interior corridors serving sleeping units and dwelling units.
- Required smoke alarms in dwelling units and in sleeping units in Group R-2 occupancies operated by a college or university for student or staff housing shall be interconnected with the fire alarm system in accordance with NFPA 72.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*This is a new section to the code and applied to college dormitories. The wording shown here is the 2015 IBC wording. It was originally added in the 2012 IBC and added requirements for an automatic smoke detection system tied into the occupant notification system in Group R-2 occupancies in college and university buildings.*

*The location for the detectors includes common spaces outside the dwelling and sleeping units, laundry rooms, mechanical rooms, storage rooms, and all interior corridors serving sleeping units and dwelling units. This is separate from single/multi-station smoke alarms provided in dwelling/sleeping units.*

*It also required interconnection between smoke alarms in individual dwelling and sleeping units and the building's fire alarm and detection system in these occupancies.*

*In the 2012 Edition the requirements appeared to apply to buildings that are **owned** by colleges or universities, so the 2015 IBC clarified that the requirements are for Group R-2 occupancies that are "...**operated** by a college or university for student or staff housing..." That's operated by the school whether it's owned by the school or not.*

# 2015 IBC Chapter 9

## Fire Protection Systems



### 907.2.11.3, 907.2.11.4 Smoke Alarms Near Cooking Appliances and Bathrooms

#### **907.2.11.3 Installation near cooking appliances.**

Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section 907.2.11.1 or 907.2.11.2:

1. Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking appliance.
2. Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking appliance.
3. Photoelectric smoke alarms shall not be installed less than 6 feet (1829 mm) horizontally from a permanently installed cooking appliance.

#### **907.2.11.4 Installation near bathrooms.**

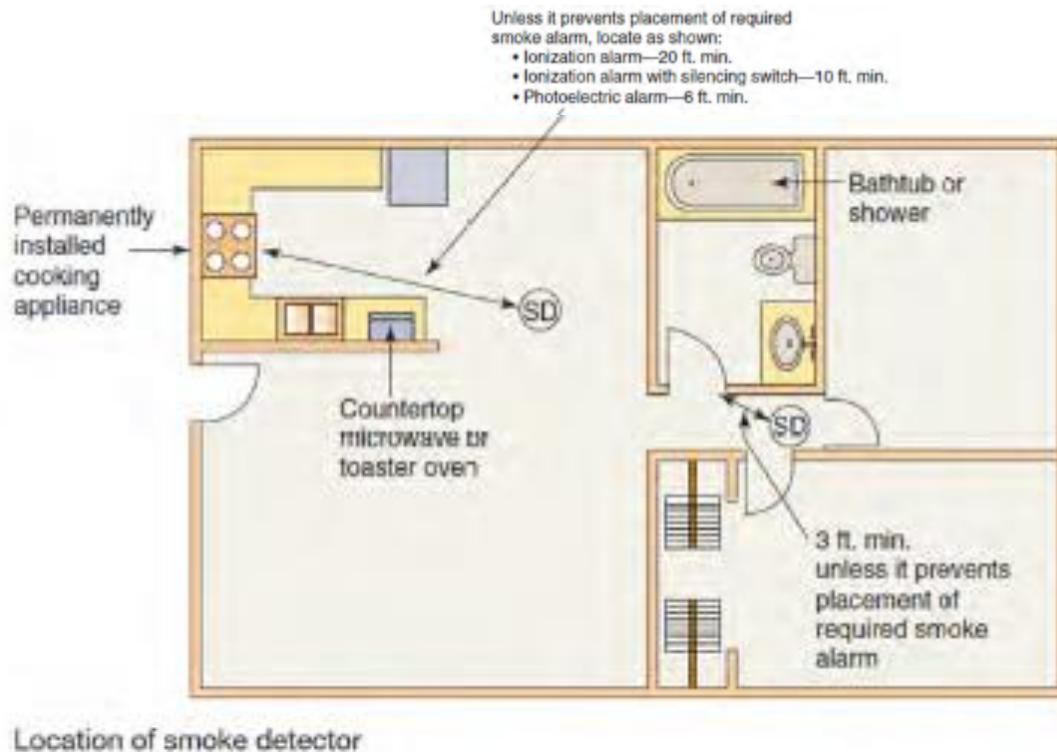
Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section 907.2.11.1 or 907.2.11.2.

# 2015 IBC Chapter 9

## Fire Protection Systems



### 907.2.11.3, 907.2.11.4 Smoke Alarms Near Cooking Appliances and Bathrooms (*continued*)



# 2015 IBC Chapter 9

## Fire Protection Systems



### **Commentary:**

*These are two new sections added to the alarm requirements to correspond with the requirements in NFPA 72 for the placement of smoke alarms.*

*When ionization smoke alarms are used they shall be located a minimum of 20 feet from permanently installed cooking appliances.*

*If the ionization smoke alarm has a silencing switch then it can be located a minimum of 10 feet from the permanently installed cooking appliance.*

*If a photoelectric smoke alarms are used they shall be located a minimum of six feet away.*

*For smoke alarms near bathrooms the smoke alarms are to be located a minimum of three feet from the bathroom door when the bathroom contains a bathtub or shower.*

*These location requirements are intended to minimize unwanted alarm activations in Group R occupancies such as hotels, motels, dormitories.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **907.4.1 Protection of Fire Alarm Control Unit**
- In areas that are not continuously occupied, a single smoke detector shall be provided at the location of each fire alarm control unit, notification appliance circuit power extender, and supervising station transmitting equipment.

**Exception:** Where ambient conditions prohibit installation of a smoke detector a heat detector shall be permitted.

# 2015 IBC Chapter 9

## Fire Protection Systems



### ***Commentary:***

*The 2009 IBC included an exception that allowed the smoke detector to be omitted where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. The exception was removed in the 2012 IBC so the smoke detector is required.*



# 2015 IBC Chapter 9

## Fire Protection Systems



- **910.1 General.** Where required by this code, smoke and heat vents or mechanical smoke removal systems shall conform to the requirements of this section.
- **910.2 Where required.** Smoke and heat vents or a mechanical smoke removal system shall be installed as required by Sections 910.2.1 and 910.2.2.
- **Exceptions:**
  1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.
  2. Smoke and heat removal shall not be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers.
  3. Smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of  $50 (m \bullet s)^{1/2}$  or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers.

# 2015 IBC Chapter 9

## Fire Protection Systems



### **Commentary:**

*This is a **NEW** code section (formerly widely exempted by SPS language).*

- *The SPS language exempting Smoke and Heat Vents or Smoke Removal Systems based upon installing an automatic fire sprinkler system has been deleted.*
- *Any reference to draft curtains have been removed from code section 910 and IFC.*
- *Exception #3 has been added to exempt the smoke and heat vents or smoke removal systems.*
  - *There are new criteria in NFPA 13 (2013) that allows special sprinklers that are not necessarily listed as ESFR sprinklers that are allowed to protect high-piled combustible storage areas with as few as six sprinklers being calculated.*

# 2015 IBC Chapter 9

## Fire Protection Systems



- **SPS 362.0910 is Repealed Group F-1 or S-1** Substitute the following wording for the requirements, but not the exception, in IBC section 910.2.1: Buildings and portions thereof used as Group F–1 or S–1 occupancies having more than 50,000 square feet in area that is undivided by full-height walls having smoke resisting characteristics which are similar to those under IBC section 910.3.5.1 constructed of sheet metal, lath and plaster, gypsum board or other approved materials that provide equivalent performance to resist the passage of smoke. Joints and connections shall be smoke tight.  
**Exception:** Group S-1 aircraft repair hangars.





# 2015 IBC Chapter 9

## Fire Protection Systems

### ***Commentary:***

*SPS 362..0910 is repealed.*

- *SPS 362.0910 Smoke and heat vents.*

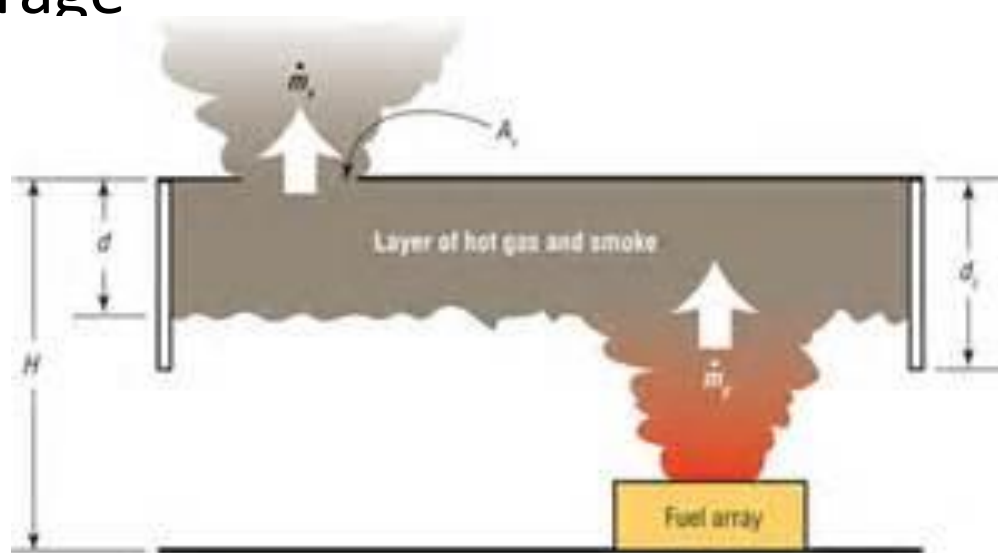
*(1) Exception. Substitute the following wording for exception 1. in IBC section 910.1: Buildings protected by an approved automatic sprinkler system.*

***Smoke and heat vents now required.***

***2009 IBC 910.3.5 Draft Curtains not required in 2015 IBC***

# IBC 910 Smoke and Heat Removal

- IBC 910 Smoke and Heat Removal Required
  - F1 or S1 @ 50,000 SF
  - Per the IFC 2306.2 for High Piled combustible storage



# 2015 IBC Chapter 9

## Fire Protection Systems



- **910.2.2 High-piled combustible storage.** Smoke and heat removal required by Table 3206.2 of the International Fire Code for buildings and portions thereof containing high-piled combustible storage shall be installed in accordance with Section 910.3 in unsprinklered buildings. In buildings and portions thereof containing high-piled combustible storage equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a smoke and heat removal system shall be installed in accordance with Section 910.3 or 910.4. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

# 2015 IBC Chapter 9

## Fire Protection Systems



***Reminder: SPS  
362.0910 has been  
repealed, smoke  
control now required.***

*Draft Curtain not req'd.*

*Smoke control required*



# 2015 IBC Chapter 9

## Fire Protection Systems



- **SPS 362.0915 Carbon monoxide detection.**

*This is a **EXISTING** code section.*

- *IBC 915 regarding carbon monoxide detection was added to the 2012 edition of the International Building Code and relocated to this section in the 2015 IBC.*
- *Former SPS 362.1200 was relocated to SPS 362.0915 to exempt the IBC code language with the language already adopted by Wisconsin Statute Section 101.149.*
- *No changes to the language occurred. It was only renumbered.*

**BEEP!**



**BEEP!**



# Chapter 10 Means of Egress

• 2009

2015

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1012 Ramps .....	1028	Exit Discharge .....
	1029	Assembly .....
	1030	Emergency Escape and Rescue .....

# IBC Chapter 10 Means of Egress

- SPS 362.1006(4) Salt and Sand Storage. Single exit with 250' max exit distance is permitted.



# Stair Construction

- SPS 362.1011 Stair construction within a building with two different classes of construction can be constructed of combustible materials.



# IBC Chapter 10 Means of Egress

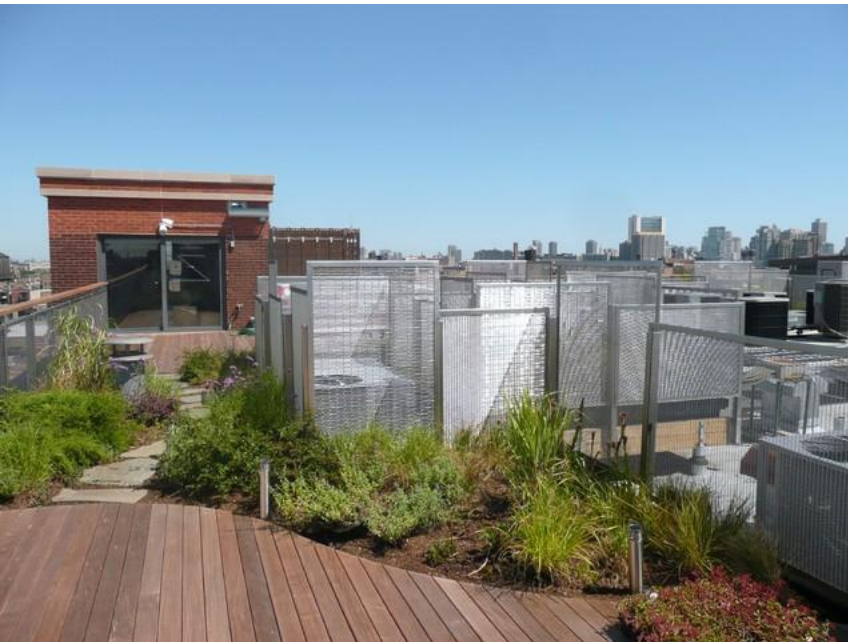
- SPS 362.1015 Guards required along open sides of walking surfaces.



# Changes to IBC Chapter 10

## Means of Egress Section 1006 Number of Exits cont'd

- 2009 IBC Language
- (IBC 1006 Means of Egress Illumination)
- 2015 IBC Language
- ***IBC 1006 Number of Exits and Exit Access Doorways***
- ***IBC 1006.3 – Egress from stories or occupied roofs, shall have exits or access to exits per this section.***



# Changes to IBC Chapter 10

## Means of Egress Section 1002 Definitions

- 2009 IBC Language
- (IBC 1002.1 – Specific Exiting Definitions)
- 2015 IBC Language
- IBC 1002.1 – Definitions are all located in Chapter 2.
- New Exit Terms:
  - *Breakout*
  - *Exit Access Stairway*
  - *Exterior Exit Ramp*
  - *Exterior Exit Stairway*
  - *Low Energy Power Operated Door*
  - *Open Ended Corridor*
  - *Power Assisted Door*
  - *Power Operated Door*



# Changes to IBC Chapter 10

## Means of Egress Section 1004 Occ. Load cont'd

- 2009 IBC Language • 2015 IBC Language
- (IBC 1004.8/ SPS 362.1004 – Egress for outdoor areas)
- **IBC 1004 Occupant Load**
- SPS 362.1004 Egress for outdoor areas. Substitute the following wording for the requirements, but not the exceptions, in IBC ~~1004.8~~ **1004.5**: Yards, patios, courts and similar outdoor areas accessible and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be based on the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant load of the building plus the outdoor areas.

# Changes to IBC Chapter 10

## Means of Egress Section 1005 Sizing

- 2009 IBC Language
- (IBC 1005 Egress Width)
- 2015 IBC Language
- **IBC 1005 Means of Egress Sizing**
  - ***IBC 1005.1 - Means of egress sized per this section except assembly occupancy aisles per Sec. 1029***
  - ***IBC 1005.2 - Minimum width based on required egress component***
  - ***IBC 1005.3 - Required capacity of means of egress based on occupant load***
    - ***1005.3.1 – Stairway capacity 0.3 inch/occupant unless meeting exception:***
      - ***1. In non H and I-2, 0.2 inch/occupant in sprinklered buildings with emergency voice/alarm allowed***
      - ***2. Smoke protected seating allowed to use Table 1029.6.2***
      - ***3. Outdoor smoke protected seating allowed to use Table 1029.6.3***



# Changes to IBC Chapter 10

## Means of Egress Section 1005 Sizing cont'd

- 2009 IBC Language
- (IBC 1005 Egress Width)
- 2015 IBC Language
- **IBC 1005 Means of Egress Sizing**
- **IBC 1005.1 Means of Egress Sizing cont'd**
  - **1005.3.2 – Other than stairway egress components capacity 0.2 inch/occupant unless meeting exception:**
  - **1. In non H and I-2, 0.15 inch/occupant in sprinklered buildings with emergency voice/alarm allowed**
  - **2. Smoke protected seating allowed to use Table 1029.6.2**
  - **3. Outdoor smoke protected seating allowed to use Table 1029.6.3**

# Changes to IBC Chapter 10

## Means of Egress Section 1005 Sizing cont'd

- 2009 IBC Language
- 2015 IBC Language
- (IBC 1005 Egress Width)
  - **IBC 1005 Means of Egress Sizing**
  - ***IBC 1005.4 Continuity - minimum width or required capacity shall not be reduced along path of egress travel to public way***
  - ***IBC 1005.5 Distribution of minimum width and required capacity – the loss of one exit or exit access shall not reduce available capacity to less than 50% of required capacity***

# Changes to IBC Chapter 10

## Means of Egress Section 1005 Sizing cont'd

- 2009 IBC Language • 2015 IBC Language
- (IBC 1005 Egress Width)
  - **IBC 1005 Means of Egress Sizing**
  - ***IBC 1005.6 Egress Convergence – where means of egress from two stories converge at an intermediate level, the capacity at that point shall be largest minimum width from one floor, or sum of required capacities for stairways, whichever is larger***

# Changes to IBC Chapter 10

## Means of Egress Section 1005 Sizing cont'd

- 2009 IBC Language
- (IBC 1005.2 Door Encroachment)
- (IBC 1005.3 Door Hardware Encroachment)
- 2015 IBC Language
- *IBC 1005 Means of Egress Sizing*
- *IBC 1005.7 Encroachment*
  - *1005.7.1 Doors shall not encroach on means of egress more than 7 inches open/ one half egress width any position unless meeting exception*
    - *1. Surface mounted hardware exempt from 7 inch encroachment if complying with this section*
    - *2. Restrictions on door swings do not apply to R-2 and R-3 dwelling and sleeping units*

# Changes to IBC Chapter 10

## Means of Egress Section 1006 Number of Exits

- 2009 IBC Language
- (IBC 1006 Means of Egress Illumination)
- 2015 IBC Language
- ***IBC 1006 Number of Exits and Exit Access Doorways (New section combining portions of (2009) IBC Sec. 1015 & 1021)***

# Changes to IBC Chapter 10

## Means of Egress Section 1006

- *SPS 362.1006(1)-~~Exit access.~~ EXIT ACCESS. This is a department exception to the requirements in IBC section 1006.3: The length of a common path of egress travel requirements **shall not be limited more than 200 feet** within **townhouse dwelling units** provided the townhouse complies with all of the following:*

# IBC Chapter 10 Means of Egress

- SPS 362.1006 Common path of egress in townhouse is limited to 200 feet with less than 3 story and separation requirements.



# Changes to IBC Chapter 10

## Means of Egress Section 1006 Number of Exits cont'd

2009 IBC  
Language  
1015.1.1 3 Exits  
or exit access  
doors **in text**.

- 2015 IBC Language
  - ***Table 1006.3.1 Minimum number of Exits per Story***
  - ***Two Exits w/1-500 occupants***
  - ***Three or more exits provided w/ 501 - 1,000 occupants;***
  - ***four w/more than 1,000***



# Changes to IBC Chapter 10

## Means of Egress Section 1006 Number of Exits cont'd

- 2015 IBC Language
- IBC 1006 Number of Exits and Exit Access Doorways

TABLE 1006.2.1  
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL > 30	
A <sup>c</sup> , E, M	49	75	75	75 <sup>a</sup>
B	49	100	75	100 <sup>a</sup>
F	49	75	75	100 <sup>a</sup>
H-1, H-2, H-3	3	NP	NP	25 <sup>b</sup>
H-4, H-5	10	NP	NP	75 <sup>b</sup>
I-1, I-2 <sup>d</sup> , I-4	10	NP	NP	75 <sup>a</sup>
I-3	10	NP	NP	100 <sup>a</sup>
R-1	10	NP	NP	75 <sup>a</sup>
R-2	10	NP	NP	125 <sup>a</sup>
R-3 <sup>e</sup>	10	NP	NP	125 <sup>a</sup>
R-4 <sup>e</sup>	10	75	75	125 <sup>a</sup>
S <sup>f</sup>	29	100	75	100 <sup>a</sup>
U	49	100	75	75 <sup>a</sup>

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

- Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where *automatic sprinkler systems* are permitted in accordance with Section 903.3.1.2.
- Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.
- For a room or space used for assembly purposes having *fixed seating*, see Section 1029.8.
- For the travel distance limitations in Group I-2, see Section 407.4.
- The length of *common path of egress travel* distance in a Group R-3 occupancy located in a mixed occupancy building or within a Group R-3 or R-4 *congregate living facility*.
- The length of *common path of egress travel* distance in a Group S-2 *open parking garage* shall be not more than 100 feet.

# Changes to IBC Chapter 10

## Means of Egress Section 1007 Exit Configuration

- 2009 IBC Language
- (IBC 1007 Accessible Means of Egress)
- 2015 IBC Language
- ***IBC 1007 Exit and Exit Access Doorway Configuration (New section combining elements of (2009) IBC Sec. 1015.1 & 1015.2)***
- ***IBC 1007.1 – General***
- ***IBC 1007.1.1.1 – Separation distance measurement***

# Changes to IBC Chapter 10

## Means of Egress Section 1008 Illumination

- 2009 IBC Language
  - (IBC 1008 Doors, Gates and Turnstiles)
    - IBC 1008 Means of Egress Illumination
      - *IBC 1008.1 – Illumination shall be provided in the means of egress per Sec. 1008.2*
      - *IBC 1008.2 – Same as (2009) IBC 1006.1*
        - *IBC 1008.2.1 – Illumination level under normal power to be 1 footcandle at walk surface.*
          - *Exception for auditoriums, theaters, concert or opera halls; illumination allowed to be reduced during performances by either:*
            - *Externally illuminated walking surfaces at minimum 0.2 footcandle;*
            - *Steps, landings and sides of ramps marked with self-luminous materials per Sec. 1025.1, 1025.2, 1025.4 and UL 1994.*
        - *IBC 1008.2.2 - Exit Discharge Illumination at exterior landings required by Sec. 1010.6.1 in Group I-2 occupancies.*
- 2015 IBC Language
  - IBC 1008 Means of Egress Illumination
    - *IBC 1008.1 – Illumination shall be provided in the means of egress per Sec. 1008.2*
    - *IBC 1008.2 – Same as (2009) IBC 1006.1*
      - *IBC 1008.2.1 – Illumination level under normal power to be 1 footcandle at walk surface.*
        - *Exception for auditoriums, theaters, concert or opera halls; illumination allowed to be reduced during performances by either:*
          - *Externally illuminated walking surfaces at minimum 0.2 footcandle;*
          - *Steps, landings and sides of ramps marked with self-luminous materials per Sec. 1025.1, 1025.2, 1025.4 and UL 1994.*
      - *IBC 1008.2.2 - Exit Discharge Illumination at exterior landings required by Sec. 1010.6.1 in Group I-2 occupancies.*

# Changes to IBC Chapter 10

## Means of Egress Section 1008 Illumination cont'd

- 2009 IBC Language
- 2015 IBC Language
- (IBC 1008 Doors, Gates and Turnstiles)
  - **IBC 1008 Means of Egress Illumination**
  - *IBC 1008.3 – Emergency power for illumination. Power supply for egress illumination provided by normal electrical supply.*
    - **IBC 1008.3.1 – General.** *In the event of power failure, rooms and spaces requiring two or more means of egress shall have emergency power to automatically illuminate aisles, corridors, exit access stairways and ramps.*
    - **IBC 1008.3.2 – Buildings.** *In the event of power failure in buildings requiring two or more means of egress, **interior exit access stairways and ramps, interior and exterior exit stairways and ramps, exit passageways, vestibules and areas on level of exit discharge used for exit discharge** per Sec. 1028.1, **and exterior landings** as required by Sec. 1010.1.6, shall have emergency power to automatically illuminate those areas.*
    - **IBC 1008.3.3 – Rooms and Spaces.** *In the event of power failure, **electrical equipment rooms, fire command centers, fire pump rooms, generator rooms and public restrooms greater than 300 sf** shall have emergency power to automatically illuminate those areas.*

# Changes to IBC Chapter 10

## Means of Egress Section 1008 Illumination cont'd

- 2009 IBC Language
  - (IBC 1008 Doors, Gates and Turnstiles)
- 2015 IBC Language
  - IBC 1008 Means of Egress Illumination
    - IBC 1008.4 – Duration. Emergency power for illumination shall provide power for duration of **not less than 90 minutes.**
    - IBC 1008.3.5 – Illumination level under emergency power. Shall provide **average not less than 1 footcandle** and minimum 0.1 footcandle at any point of path of egress at floor level. Illumination allowed to decline to average 0.6 footcandle and minimum 0.006 footcandle at the end of emergency lighting time duration. In Group I-2 occupancies, failure of any single lighting unit shall not reduce illumination level to less than 0.2 footcandle.

# Changes to IBC Chapter 10

## Means of Egress Section 1009 Accessible

- 2009 IBC Language
  - (IBC 1009 Stairways)
- 2015 IBC Language
  - **IBC 1009 Accessible Means of Egress**
  - IBC 1009.1 – Accessible means of egress required.
    - Exception 1 . Accessible means of egress not required ***to be provided*** in existing buildings
  - IBC 1009.2 – Continuity and components.
    - ***3. Exit access stairways complying with Sec. 1009.3 and 1019.3 or 1019.4.***
    - ***4. Exterior exit stairways complying with Sec. 1009.3 and 1027 and serving levels other than the level of exit discharge.***
    - ***10. Exterior areas for assisted rescue complying with Sec. 1009.7 serving exits at the level of exit discharge.***

# Changes to IBC Chapter 10

## Means of Egress Section 1009 Accessible cont'd

- 2009 IBC Language
  - 1007.3 Stairways
- 2015 IBC Language
  - IBC 1009 Accessible Means of Egress
  - IBC 1009.3 – Stairways. In order to be considered part of an accessible means of egress, ***a stairway between stories*** shall have...
    - 1. **(New)** *Exit access stairways providing means of egress from mezzanines are permitted as part of accessible means of egress*
    - 2. **(Changed #2)** *Clear width of 48" between handrails not required in buildings sprinklered per Sec. 903.3.1.1 or 903.3.1.2*
    - 3. **(Changed #4)** *Clear width of 48" between handrails not required for stairways accessed from refuge area in conjunction with a horizontal exit*
    - 4. **(New)** *Areas of refuge not required at exit access stairways where two-way communication is provided at elevator landings per Sec. 1009.8*

# Changes to IBC Chapter 10

## Means of Egress Section 1009 Accessible cont'd

- 2009 IBC Language
  - (IBC 1009 Stairways)
  - (1007.3 Stairways. In order to be considered part of an accessible means of egress, an exit access stairway as permitted by Sec. 1016.1 or exit stairway shall have...)
- 2015 IBC Language
  - **IBC 1009 Accessible Means of Egress**
  - IBC 1009.3 – Stairways (cont'd). In order to be considered part of an accessible means of egress, ***a stairway between stories*** shall have...
    - ***5. (Changed #3) Areas of refuge not required at buildings sprinklered per Sec. 903.3.1.1 or 903.3.1.2***
    - ***6. (Changed #5) Areas of refuge not required at stairways serving open parking garages***
    - ***7. (Changed #6) Areas of refuge not required for smoke-protected-seating areas per Sec. 1029.6.2***
    - ***8. (Changed #7) Areas of refuge not required at stairways in Group R-2***
    - ***9. (New) Areas of refuge not required for stairways accessed from a refuge area in conjunction with a horizontal exit***



# Changes to IBC Chapter 10

## Means of Egress Section 1009 Accessible cont'd

- 2009 IBC Language
  - (IBC 1009 Stairways)
- 2015 IBC Language
  - IBC 1009 Accessible Means of Egress
  - ***SPS 362.1009 Accessible means of egress. This is a department exception in addition to IBC section 1009.3: Areas of refuge are not required at floors that are not required to be accessible.***

# Changes to IBC Chapter 10

## Means of Egress Section 1009 Accessible cont'd

- 2009 IBC Language
  - (1007.5 Platform lifts. Platform lifts shall not serve as part of an accessible means of egress, except where allowed as part of a required accessible route in Section 1109.7 Items 1 through 9. Standby power shall be provided in accordance with Chapter 27 for platform lifts permitted to serve as part of a means of egress
    - 1007.5.1 Openness. Platform lifts on an accessible means of egress shall not be installed in a fully enclosed hoistway)
- 2015 IBC Language
  - IBC 1009 Accessible Means of Egress
  - ***IBC 1009.5 – Platform lifts. Platform lifts shall be permitted to serve as part of an accessible means of egress where allowed as part of a required accessible route in Section 1109.8 except for item 10. Standby power for platform lifts shall be provided in accordance with Chapter 27.***

# Changes to IBC Chapter 10

## Means of Egress Section 1009 Accessible cont'd

- 2009 IBC Language
- (IBC 1007.8 Two-way communication)



- 2015 IBC Language

- *IBC 1009.8 – Two-way communication. A two-way communication system per **Sec. 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator or bank of elevators** on each accessible floor that is one or more stories above or below the level of exit discharge.*
  - *Exception 1 (changed #1) Two-way communication systems not required at landing serving each elevator or bank of elevators where two-way communication system is provided in areas of refuge per Sec. 1009.6.5*
  - *Exception 2 (changed #2) Two-way communication systems not required on floors provided with ramps per Sec. 1012*
  - ***Exception 3 (new) Two-way communication systems not required at the landings serving only service elevators that are not designated as part of the accessible means of egress or serve as accessible route into a facility***
  - ***Exception 4 (new) Two-way communication systems not required at the landings serving only freight elevators***
  - ***Exception 5 (new) Two-way communication systems not required at the landing serving a private residence elevator***

# Changes to IBC Chapter 10

## Means of Egress Section 1009 Accessible cont'd

- 2009 IBC Language
- (IBC 1007.8 Two-way communication)
- 2015 IBC Language
  - *IBC 1009.8.1 – System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not **at a constantly attended location, a two-way communication system shall have a timed automatic telephone dial-out capability to a monitoring location or 911.** The two-way communication system shall include both audible and visible signals.*
  - *IBC 1009.8.2 – Directions. Directions for the use of the two-way communication systems... shall be posted adjacent to the two-way communication system. **Signage shall comply with the ICC A117.1 requirements for visual characters.***

# Changes to IBC Chapter 10

## Means of Egress Section 1010 Doors cont'd

- 2009 IBC Language • 2015 IBC Language
- (IBC 1008 Doors, Gates and Turnstiles)
  - **IBC 1010 Doors, Gates and Turnstiles**
    - *9. (New) Doors to walk-in freezers and coolers less than 1,000 square feet in area shall have a maximum width of 60-inches.*
    - *10. (New) In Group R-1 dwelling units or sleeping units not required to be Accessible units, the minimum width shall not apply to doors for showers or saunas.*

# Changes to IBC Chapter 10

## Means of Egress Section 1010 Doors cont'd

- 2009 IBC Language
- (IBC 1008 Doors, Gates and Turnstiles)
- 2015 IBC Language
- **IBC 1010 Doors, Gates and Turnstiles**
  - IBC 1010.1.3 Door Opening force. The force for pushing or pulling open interior swinging doors, other than fire doors, shall not exceed 5 pounds.  
***These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.***

# Changes to IBC Chapter 10

## Means of Egress Section 1010 Doors cont'd

- 2009 IBC Language
- (IBC 1008 Doors, Gates and Turnstiles)
- 2015 IBC Language
- **IBC 1010 Doors, Gates and Turnstiles**
  - IBC 1010.1.4 Special doors. Special doors and security grilles shall comply with the requirements of **Sec. 1010.1.4.1 through 1010.1.4.4**



- IBC 1010.1.4.1 Revolving doors. Revolving doors shall comply with the following:
  - **1. (New) Revolving doors shall comply with BHMA A156.27 and shall be installed in accordance with manufacturer's instructions.**
  - **2. (New) Each revolving door shall be capable of breakout in accordance with BHMA A 156.27 and shall provide an aggregate width of not less than 36-inches.**
  - 3. A revolving door shall not be located within **10 feet** of the foot or top of **stairways** or escalators. A dispersal area shall be provided between the **stairways** or escalators and the revolving doors.
  - 4. (Changed #3) The revolutions per minute (rpm) for a revolving door shall not exceed **the maximum rpm as specified in BHMA A156.27. Manual revolving doors shall comply with Table 1010.1.4.1(1). Automatic or power-operated revolving doors shall comply with Table 1010.1.4.1(2).**

# Changes to IBC Chapter 10

## Means of Egress Section 1010 Doors cont'd

- 2009 IBC Language
- (IBC 1008 Doors, Gates and Turnstiles)
- 2015 IBC Language
- **IBC 1010 Doors, Gates and Turnstiles**
  - **IBC 1010.1.4.1 Revolving doors.** Revolving doors shall comply with the following cont'd:
  - **5. (New) *An emergency stop switch shall be provided near each entry point of a revolving door within 48-inches of the door and between 24-inches and 48-inches above the floor. The activation area of the emergency stop switch button shall not be less than 1-inch in diameter and shall be red.***
  - **6. (Changed #4 '09 Sec. 1008.1.4)** Each revolving door shall have a side-hinged swinging door that complies with **Section 1010.1** in the same wall and within 10 feet of the revolving door.





# Changes to IBC Chapter 10

## Means of Egress Section 1010 Doors cont'd

- 2009 IBC Language
- (IBC 1008.1.5 Floor elevation)
- 2015 IBC Language
- IBC 1010.1.5 Floor elevation.
- ***6. (New Exception) Doors serving equipment spaces not required to be accessible in accordance with Sec. 1103.2.9 and serving an occupant load of five or less shall be permitted to have a landing on one side to be not more than 7-inches above or below the landing on the egress side of the door.***

# Changes to IBC Chapter 10

## Means of Egress Section 1010 Doors cont'd

- 2009 IBC Language
- 2015 IBC Language
- (IBC 1008.1.7 Thresholds)
  - IBC 1010.1.7 Thresholds. Thresholds at doorways shall not exceed 3/4 –inch in height ***above the finished floor or landing*** for sliding doors...
    - Exceptions
      - 1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to **7 3/4-inch** in height if all of the following apply:
        - 1.1 The door is not part of the required means of egress
        - 1.2 The door is not part of an accessible route as required by Chapter 11
        - 1.3 The door is not part of an Accessible unit, Type A unit or Type B unit
      - 2. In Type B units, where Exception 5 to Sec. 1010.1.5 permits a 4-inch elevation change at the door, the threshold height on the exterior side of the door shall not exceed **4 3/4-inch** in height above the exterior deck, patio or balcony for sliding doors or 4 1/2-inch above the exterior deck, patio or balcony for other doors

# Changes to IBC Chapter 10

## Means of Egress Section 1010 Doors cont'd

- 2009 IBC Language
- 2015 IBC Language
- (IBC 1008.1.9 Door operations
  - IBC 1008.1.9.10 Stairway doors.
    - 3 Exceptions)
- IBC 1010.1.9 Door Operations. (Same as '09 Sec. 1008.1.9) cont'd
  - **IBC 1010.1.9.11 (Changed '09 Sec. 1008.1.9.10)** Stairway doors. Interior stairway means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.
    - Exceptions:
      - Exc. 1. (Same as '09)
      - Exc. 2 (Same as '09)
      - Exc. 3. (Same as '09)
      - **Exc. 4. (New) Stairway exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single exit stairway where permitted in Section 1006.3.2.**
      - **Exc. 5. (New) Stairway exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the dwelling unit is from a single exit stairway where permitted in Section 1006.3.2.**

# Changes to IBC Chapter 10

## Means of Egress Section 1010 Doors cont'd

- 2009 IBC Language
  - (IBC 1008.1.10 Panic and fire exit hardware
    - 1 Exception)
- 2015 IBC Language
  - IBC 1010.1.10 Panic and fire exit hardware. (Same as '09 Sec. 1008.1.10)
    - ***IBC 1010.1.10 (Changed from '09 Sec. 1008.1.10)*** Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock ***other than*** panic hardware or fire exit hardware
      - Exceptions:
        - Exc. 1. (Changed from '09 Exc. #1) A main exit of a Group A occupancy shall be permitted to be locking accordance with ***Section 1010.1.9.3***, Item 2.
        - ***Exc. 2. (New) Doors serving a Group A or E occupancy shall be permitted to be electromagnetically locked in accordance with Section 1010.1.9.9.***
    - Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with exit or exit access doors, shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

# Changes to IBC Chapter 10

## Means of Egress Section 1011 Stairways cont'd

- 2009 IBC Language
- (IBC 1009 Stairways
- 2015 IBC Language
- **IBC 1011 Stairways.**
- **IBC 1011.5.5 (Changed from '09 Sec. 1009.4.5) Nosings shall have a curvature or bevel of not less than 1/16 inch but not more than 9/16 inch from the foremost projection of the tread. Risers shall be solid and vertical or sloped under the tread above from the underside of the nosing above at an angle not more than 30 degrees from the vertical.**
  - **IBC 1011.5.5.1 Nosing projection size. (New) The leading edge (nosings) of treads shall project not more than 1 1/4 inches beyond the tread below.**
  - **IBC 1011.5.5.2 Nosing projection uniformity. (New) Nosing projections of the leading edges shall be of uniform size, including the projections of the nosing's leading edge of the floor at the top of a flight.**

# Changes to IBC Chapter 10

## Means of Egress Section 1011 Stairways cont'd

- 2009 IBC Language
- (IBC 1009 Stairways)
- 2015 IBC Language
- ***IBC 1011 Stairways.***
- ***SPS 362.1011(2) This is a department rule in addition to the requirements in IBC section 1011.7: For platform buildings designed per IBC section 510.2 where a stair shaft serves 2 or more classes of construction and one of those classes of construction allows combustible materials, the entire stair construction within the enclosure may be of combustible materials.***

# Changes to IBC Chapter 10

## Means of Egress Section 1011 Stairways cont'd

- 2009 IBC Language
- (IBC 1009 Stairways
- IBC 1009.11 Ships ladders)
- 2015 IBC Language
- ***IBC 1011 Stairways.***
- IBC 1011.15 Ships ladders.
- Ships ladders are permitted to be used in Group I-3 as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 square feet with not more than three occupants and for access to unoccupied roofs. The minimum clear width at and below the handrails shall be 20 inches.
- ***IBC 1011.15.1 (New) Handrails of ships ladders. Handrails shall be provided on both sides of ships ladders.***
- ***IBC 1011.15. (New) Treads of ships ladders. Ships ladders shall have a minimum tread depth of 5 inches. The tread shall be projected such that the total of the tread depth plus the nosing projection is not less than 8 1/2 inches. The maximum riser height shall be 9 1/2 inches.***

# Changes to IBC Chapter 10

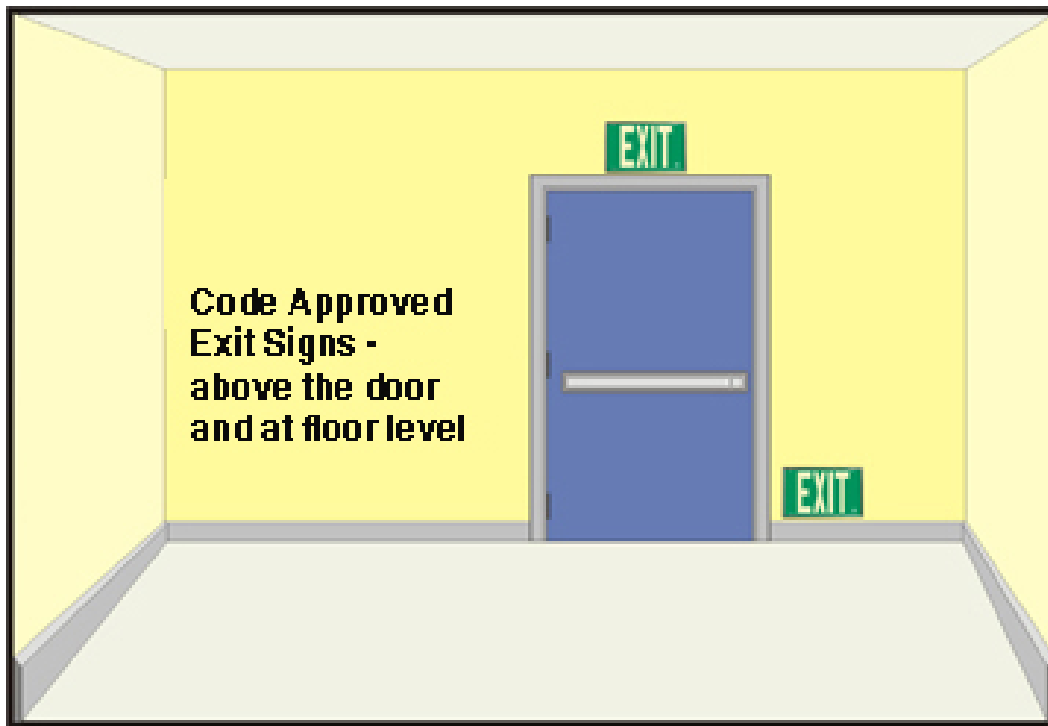
## Means of Egress Section 1013 Exit Signs

- 2009 IBC Language
- **SPS 362.1013**
- **Floor level Exit Signs are not included in this code.**
- 2015 IBC Language
- *IBC 1013.2 Floor-level exit signs in Group R-1. (New) Where exit signs are required in Group R-1 occupancies by Section 1013.1, additional low-level exit signs shall be provided in all areas serving guest rooms in Group R-1 occupancies and shall comply with Section 1013.5. The bottom of the sign shall be not less than 10 inches (254 mm) nor more than 12 inches (305 mm) above the floor level. The sign shall be flush mounted to the door or wall. Where mounted on the wall, the edge of the sign shall be within 4 inches (102 mm) of the door frame on the latch side.*
- IBC 1013.3 Illumination. (Same as '09 Sec. 1011.2)
  - Exception (Changed from '09 Sec. 1011.2) Tactile signs required by **Section 1013.4** need not be provided with illumination.



# IBC Chapter 10 Means of Egress

- SPS 362.1013 Floor level exit signs are not required to be provided.



# Changes to IBC Chapter 10

## Means of Egress Section 1015 Guards cont'd

- 2009 IBC Language
- (IBC 1013 Guards)
- 2015 IBC Language
  - **IBC 1015 Guards.**
  - **IBC 1015.6 Mechanical equipment, systems and devices.**
  - **Exception (New): Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet on center along hip and ridge lines and placed not less than 10 feet from the roof edge or open side of the walking surface.**
  - IBC 1015.7 Roof access. (Same as '09 Sec. 1013.6)
  - **Exception (New): Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet on center along hip and ridge lines and placed not less than 10 feet from the roof edge or open side of the walking surface.**

# 1017 Exit Access Travel Distance

- IBC 1017.2.2
- Group F-1 and S-1 Maximum exit access travel distance shall be **400 feet** where:
  - Limited to one story
  - Minimum height from floor to ceiling is 24 feet
  - Equipped with automatic sprinkler system

# 1020 Corridors

- 2009 IBC
- Corridors 1018

2015 IBC 1020

Table 1020.2 Corridor Width now in Table format

**TABLE 1020.2  
MINIMUM CORRIDOR WIDTH**

OCCUPANCY	MINIMUM WIDTH (inches)
Any facilities not listed below	44
Access to and utilization of mechanical, plumbing or electrical systems or equipment	24
With an occupant load of less than 50	36
Within a <i>dwelling unit</i>	36
In Group E with a <i>corridor</i> having an occupant load of 100 or more	72
In <i>corridors</i> and areas serving stretcher traffic in ambulatory care facilities	72
Group I-2 in areas where required for bed movement	96

# 1029 Assembly

- Language changes in:
  - Aisle requirements
  - Dead-end aisle
  - Transition areas
  - Seating w/wo backs
  - Handrail requirements

# IBC Chapter 11

## Accessibility Significant Code Changes

## IBC 1103.2.8

### Areas in Places of Religious Worship

- 2009 IBC Language
- None



- 2015 IBC Language

**IBC 1103.2.8 Areas in places of religious worship.** Raised or lowered areas, or portion of areas, in places of religious worship that are less than 300 sf. in area and located 7" or more above or below the finished floor and used primarily for the performance of religious ceremonies **are not required to comply with this chapter.**

# IBC 1104.3.1

## Employee Work Areas

- 2009 IBC Language

### IBC 1104.3.1 Employee Work Areas.

- Exception 1 – Common use circulation paths located within employee work areas that are less than **300 sf** in size and defined by permanent installed partitions, counters, casework or furnishings, shall not be required to be accessible routes.

- 2015 IBC Language

### IBC 1104.3.1 Employee Work Areas.

- Exception 1 – Common use circulation paths located within employee work areas that are less than **1,000 sf.** in size and defined by permanent installed partitions, counters, casework or furnishings, shall not be required to be accessible routes.



# IBC 1104.4

## Multi-story Buildings

- 2009 IBC Language

### IBC 1104.4 Multi-level Buildings and Facilities.

- Exception 1 – An accessible route is not required to stories and mezzanines that have an aggregate area of not more than 3,000 sf and are located above and below accessible levels. This exception shall not apply to:
  - 1.4 None

- 2015 IBC Language

### IBC 1104.4 Multi-story Buildings and Facilities.

- Exception 1 – An accessible route is not required to stories and mezzanines that have an aggregate area of not more than 3,000 sf and are located above and below accessible levels. This exception shall not apply to:
  - **1.4. Government buildings**

# IBC 1107.3

## Accessible Spaces in Dwelling and Sleeping Units

### • 2009 IBC Language

#### 1107.3 Accessible spaces.

##### Exceptions:

- 1. Recreational facilities in accordance with Section 1109.14.
- 2. In Group 1-2 facilities, doors to sleeping units shall be exempted from the requirements for maneuvering clearance at the room side provided the door is a minimum of 44 inches (1118 mm) in width.

### • 2015 IBC Language

#### 1107.3 Accessible spaces.

##### Exceptions:

- **1. Stories and mezzanines exempted by Section 1107.4.**
- 2. Recreational facilities in accordance with Section 1110.2.
- 3. Exterior decks, patios or balconies that are part of Type B units and have impervious surfaces, and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the unit.

# IBC 1107.4

## Accessible Routes in Dwelling and Sleeping Units

### • 2009 IBC Language

#### 1107.4 Accessible route

##### Exceptions:

- 1. If due to circumstances outside the control of the owner, either the slope of the finished ground level between accessible facilities and buildings exceeds one unit vertical in 12 units horizontal (1:12), or where physical barriers or legal restrictions prevent the installation of an accessible route, a vehicular route with parking that complies with Section 1106 at each public or common use facility or building is permitted in place of the accessible route.
- 2. Exterior decks, patios or balconies that are part of Type B units and have impervious surfaces, and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the unit.

### • 2015 IBC Language

#### 1107.4 Accessible route

##### Exceptions:

- Exceptions 2 through 7 new.
- 2. In Group I-3 facilities, ....
- 3. In Group R-2 facilities with *Type A units* complying with Section 107.6.2.2.1, ....
- 4. In other than Group R-2 dormitory housing provided by places of education, ...
- 5. In Group R-1, an *accessible route* is not required to connect *stories* or *mezzanines* within individual units, ...
- 6. In congregate residences in Groups R-3 and R-4, ...
- 7. An *accessible route* between *stories* is not required where *Type B units* are exempted by Section 1107.7.

# IBC 1107.5.1

## Group I-1 Accessible Units

- 2009 IBC Language

### IBC 1107.5.1 Group I-1

- **1107.5.1.1 Accessible units.** At least 4%, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*.

- 2015 IBC Language

### IBC 1107.5.1 Group I-1

- **1107.5.1.1 Accessible units.** In Group I-1 Condition 1, at least 4 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*. **In Group I-1 Condition 2, at least 10%, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*.**

# IBC 1107.6.1

## Group R-1 Accessible Units

- 2009 IBC Language

### IBC 1107.6.1. Group R-1

**1107.6.1.1 Accessible units.** In Group R-1 occupancies, *Accessible dwelling units* and *sleeping units* shall be provided in accordance with Table 1107.6.1.1. **All R-1 units on a site shall be considered to determine the total number of Accessible units.** *Accessible units* shall be dispersed among the various classes of units. Roll-in showers provided in *Accessible units* shall include a permanently mounted folding shower seat.

- 2015 IBC Language

### IBC 1107.6.1. Group R-1

**1107.6.1.1 Accessible units.** *Accessible dwelling units* and *sleeping units* shall be provided in accordance with Table 1107.6.1.1. **Where buildings contain more than 50 dwelling units or sleeping units, the number of Accessible units shall be determined per building.** Where buildings contain 50 or fewer *dwelling units* or *sleeping units*, all *dwelling units* and *sleeping units* on a site shall be considered to determine the total number of *Accessible units*. *Accessible units* shall be dispersed among the various classes of units.

# IBC 1107.6.4

## Group R-4 Accessible Units

- 2009 IBC Language

### IBC 1107.6.4 Group R-4

**1107.6.4.1 Accessible units.** At least one of the *dwelling* or *sleeping units* shall be an *Accessible unit*.

- 2015 IBC Language

### IBC 1107.6.4 Group R-4

**1107.6.4.1 Accessible units.** In Group R-4 Condition 1, at least one of the *dwelling units* or *sleeping units* shall be an *Accessible unit*. In Group R-4 Condition 2, at least two of the *dwelling units* or *sleeping units* shall be an *Accessible unit*. Bedrooms in Group R-4 facilities shall be counted as *sleeping units* for the purpose of determining the number of units.

## IBC 1108.2.7.3 Public Address Systems

- 2009 IBC Language

**IBC 1108.2.7.3 Public Address Systems.** Where stadiums, arenas and *grandstands* provide audible public announcements, they shall also provide equivalent text information regarding events and facilities in compliance with Sections 1108.2.7.2.1 and 1108.2.7.2.2.

- 2015 IBC Language

**IBC 1108.2.7.3 Public Address Systems.** Where stadiums, arenas and *grandstands* have **15,000 fixed seats or more** and provide audible public announcements, they shall also provide recorded or real-time captions of those audible public announcements.

## IBC 1109.2

### Toilet & Bathing Facilities - Bariatrics

- 2009 IBC Language

## IBC 1109.2 Toilet and Bathing Facilities (Bariatrics)

- Exceptions
  - 6. No language

- 2015 IBC Language

### IBC 1109.2 Toilet and Bathing Facilities (Bariatrics)

- Exceptions
  - 6. Toilet rooms or bathing rooms designed for bariatrics patients are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The *sleeping units* served by bariatrics toilet or bathing rooms shall not count toward the required number of *Accessible sleeping units*



## **IBC 1109.2 & IBC 1109.5**

### **Toilet and Bathing Facilities & Drinking Fountains – Children’s**

- **2009 IBC Language**

#### **IBC 1109.2 & 1109.5 Toilet and Bathing Facilities and Drinking Fountains (Children’s)**

- **Exceptions**

##### **IBC 1109.2**

- Exceptions
- 7. None

##### **IBC 1109.5**

- Exceptions
- 2. None

- **2015 IBC Language**

#### **IBC 1109.2 & IBC 1109.5 Toilet and Bathing Facilities and Drinking Fountains (Children’s)**

- **IBC 1109.2 Exc. 7** ... shall be permitted to comply with children’s provision of ICC A117.1.
- **IBC 1109.5.1 & 1109.5.2 Exc. 2** ...drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor.

## IBC 1109.2.2

### Water Closet Compartment

- 2009 IBC Language

**IBC 1109.2.2 Water closet compartment.**

Where water closet compartments are provided in a toilet room or bathing room, **at least one** *wheelchair-accessible* compartment shall be provided. Where the combined total water closet compartments and urinals provided in a toilet room or bathing room is **six or more, at least one ambulatory-accessible water closet compartment** shall be provided in addition to the *wheelchair-accessible* compartment. *Wheelchair-accessible* and *ambulatory-accessible* compartments shall comply with ICC A117.1.

- 2015 IBC Language

**IBC 1109.2.2 Water closet**

**compartment.** Where water closet compartments are provided in a toilet room or bathing room, **at least 5%** of the total number of compartments shall be wheelchair *accessible*. Where the combined total water closet compartments and urinals provided in a toilet room or bathing room is **six or more, at least 5% of the total number of compartments** shall be ambulatory *accessible*, provided in addition to the wheelchair *accessible* compartment.

## IBC 1109.6

### Saunas & Steam Rooms

- 2009 Language

#### IBC 1109

- No previous code language regarding saunas and steam rooms.

- 2015 Language

**1109.6 Saunas and steam rooms.** Where provided, saunas and steam rooms shall be *accessible*.

**Exception:** Where saunas or steam rooms are clustered at a single location, **at least 5% of the saunas and steam rooms, but not less than one**, of each type in each cluster shall be *accessible*.

# IBC 1109.14

## Recreational & Sports Facilities

### • 2009 IBC

#### IBC 1109.14 Recreational and sports facilities

- 1109.14.1 – Facilities serving a single building
- 1109.14.2 – Facilities serving multiple buildings
- 1109.14.3 – Other occupancies
- 1109.14.4 – Recreational and sports facilities exceptions
  - Bowling lanes
  - Court sports
  - Raised boxing or wrestling rings
  - Raised diving boards and diving platforms

### • 2015 IBC

#### IBC 1110 Recreational Facilities

- Facilities serving R-2, R-3, and R-4
- Recreational Facilities
  - Team or player seating
  - Bowling lanes
  - Court sports
  - **Amusement Rides**
  - **Recreational Boating Facilities**
    - **Boat slips**
    - **Boarding piers**
  - **Exercise machines and equipment**
  - **Fishing piers and platforms**
  - **Miniature golf facilities**
  - **Swimming pools, wading pools, hot tubs and spas**
  - **Shooting facilities with firing positions**

# IBC 1111 Signage

- 2009 IBC Language

## IBC 1110 Signage

- 1. *Accessible* parking spaces required by Section 1106.1 except where the total number of parking spaces provided is four or less.
- 2. *Accessible* passenger loading zones.

- 2015 IBC Language

## IBC 1111 Signage

- 1. *Accessible* parking spaces required by Section 1106.1.
  - **Exception:** Where the total number of parking spaces provided is four or less, identification of *accessible* parking spaces is not required.
- 2. *Accessible* parking spaces required by Section 1106.2.
  - **Exception:** In Group I-1, R-2, R-3 and R-4 facilities, where parking spaces are assigned to specific *dwelling units* or *sleeping units*, identification of *accessible* parking spaces is not required.

# ICC A117.1 Section 301.2

## Overlap of Clearances at Doors, Fixtures, Appliances, and Elements

### • 2003 ICC A117.1

#### 603 Toilet and Bathing Rooms

- **603.2 Clearances.**
  - **603.2.2 Overlap.** Clear floor spaces, clearances at fixtures, and turning spaces shall be permitted to overlap.

#### 804 Kitchens and Kitchenettes

- **804.5.1 Clear Floor Space.** A clear floor space complying with section 305 shall be provided at each kitchen appliance. Clear floor spaces are permitted to overlap.

#### 1003 Type A Units

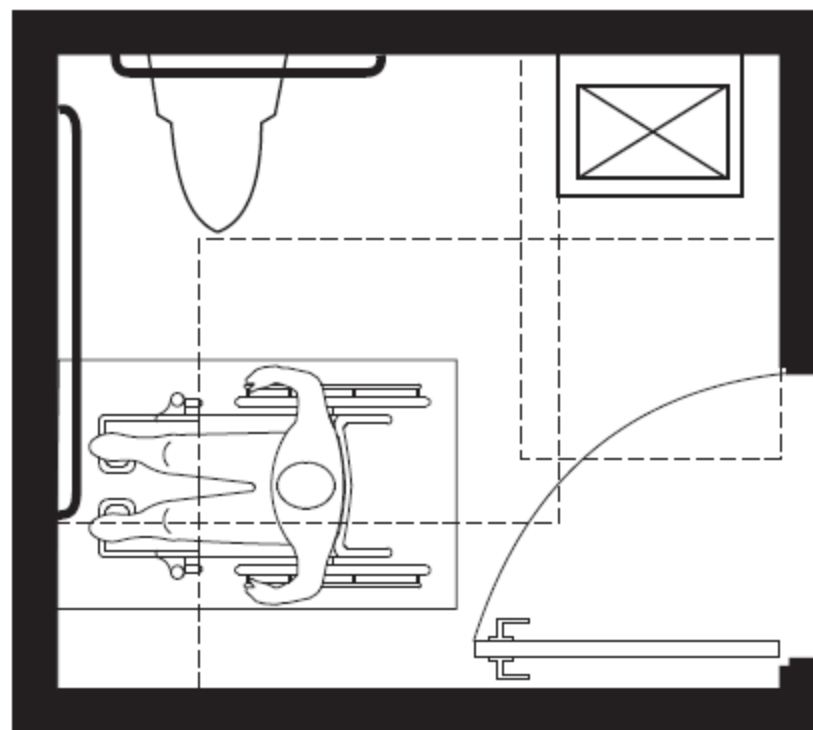
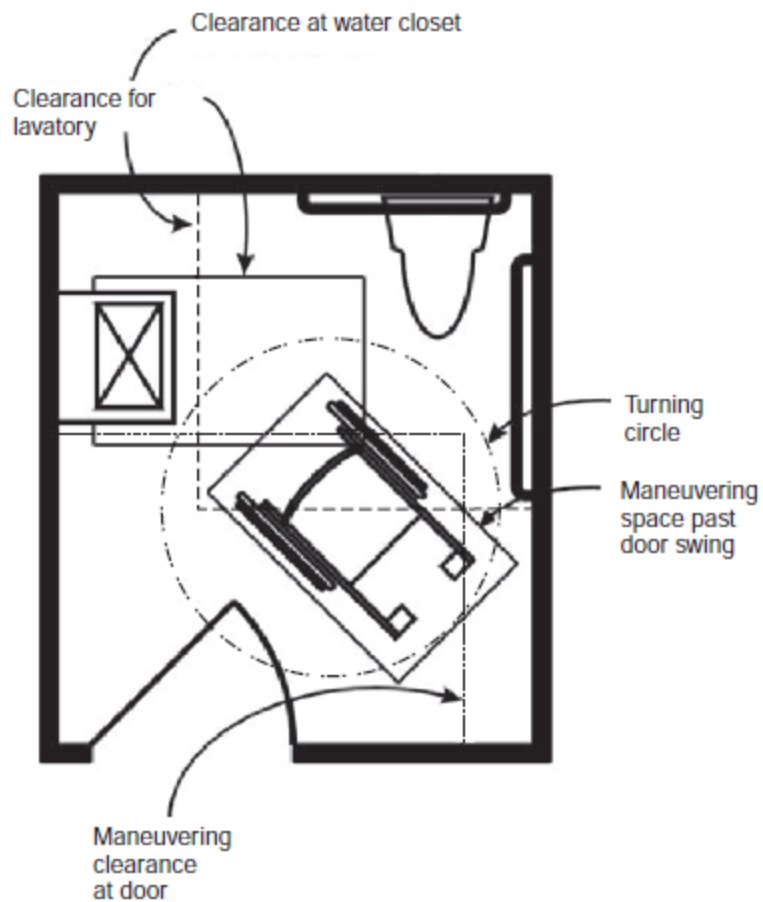
- **1003.11 Toilet and Bathing Facilities.**
  - **1003.11.3 Overlap.** Clear floor spaces, clearances at fixtures and turning spaces are permitted to overlap.

#### 1004 Type B Units

- **1004.11 Toilet and Bathing Facilities.** Toilet and bathing fixtures shall comply with Section 1004.12.
  - **1004.11.1.3 Overlap.** Clear floor spaces shall be permitted to overlap.

### • 2009 ICC A117.1

**301.2 Overlap.** Unless otherwise specified, clear floor spaces, clearances at fixtures, maneuvering clearances at doors, and turning spaces shall be permitted to overlap.



**301.2 continues**

# ICC A117.1 Section 308.3.1

## Unobstructed Side Reach Allowances

### • 2003 ICC A117.1

#### 308.3 Side Reach.

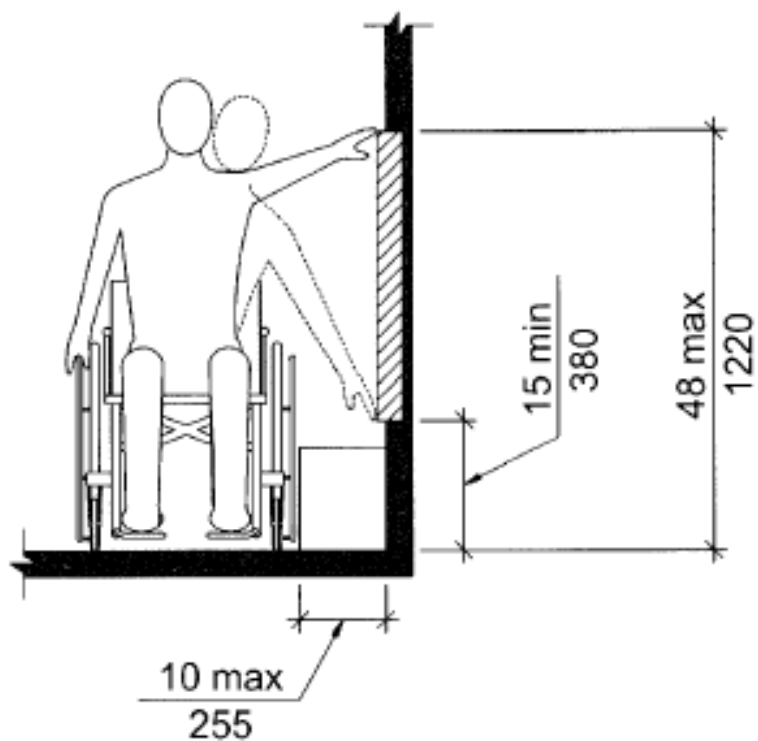
- **308.3.1 Unobstructed.** Where a clear floor space complying with Section 305 allows a parallel approach to an element and the edge of the clear floor space is 10 inches (255 mm) maximum from the element, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the floor.
  - **Exception:** Existing **elements** shall be permitted at 54 inches (1370 mm) maximum above the floor.

### • 2009 ICC A117.1

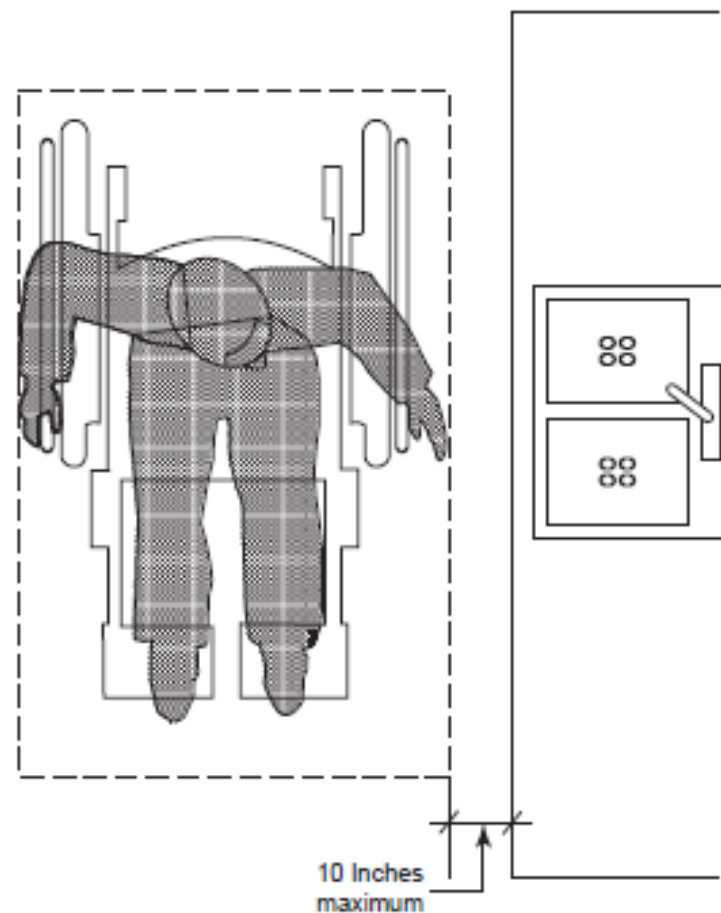
#### 308.3 Side Reach.

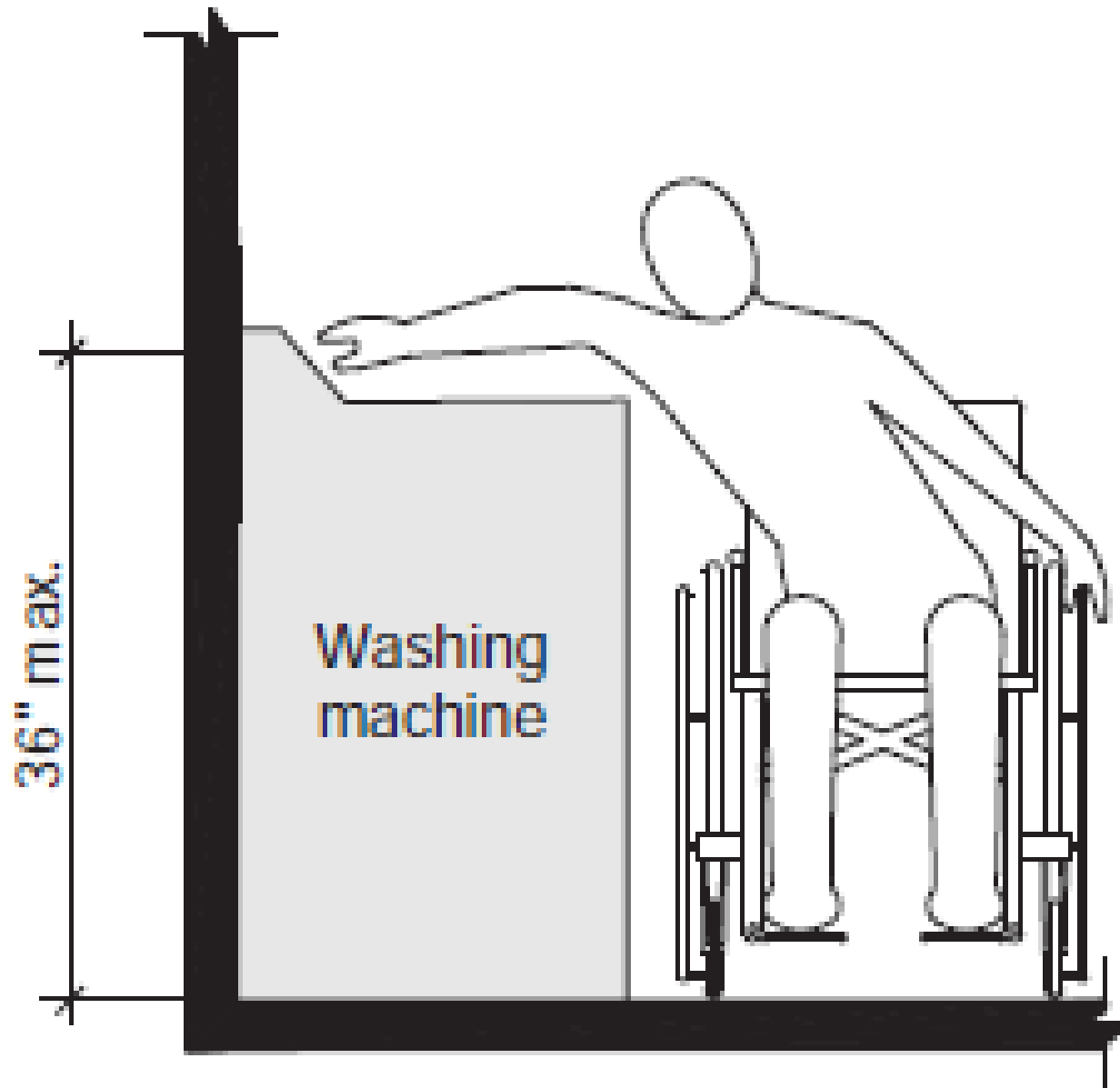
- **308.3.1 Unobstructed.** Where a clear floor space complying with Section 305 allows a parallel approach to an element and the ~~side reach is unobstructed~~, edge of the clear floor space is 10 inches (255 mm) maximum from the element, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the floor.
  - **Exception:** Existing elements that are not altered shall be permitted at 54 inches (1370 mm) maximum above the floor.





**FIG. 308.3.1  
UNOBSTRUCTED SIDE REACH**





## ICC A117.1 Section 404.2.3

### Obstructions to the Maneuvering Clearances at Door

- 2003 ICC A117.1

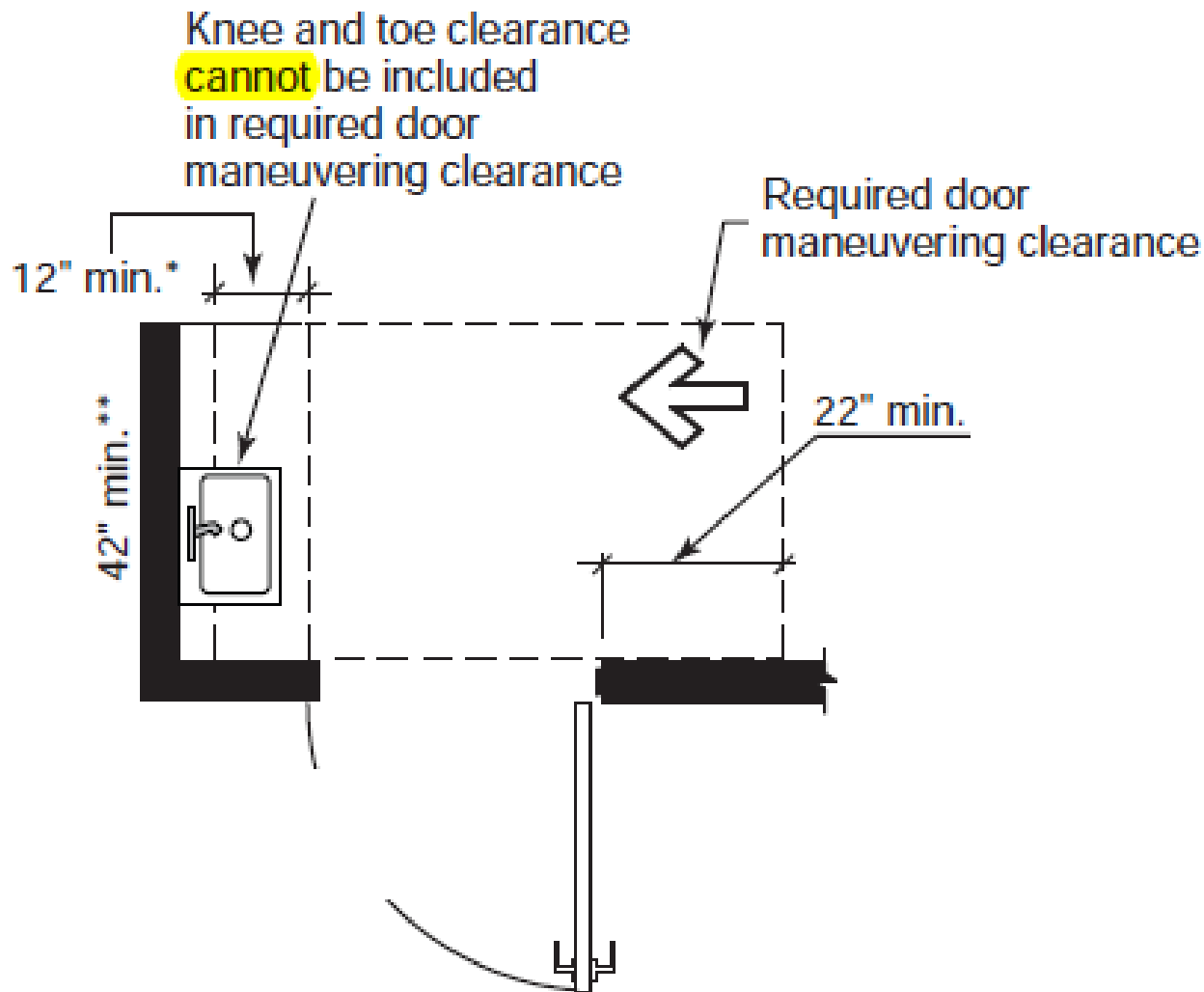
#### **404.2.3 Maneuvering Clearances at Doors.**

Minimum maneuvering clearances at doors shall comply with Section 404.2.3 and shall include the full clear opening width of the doorway.

- 2009 ICC A117.1

#### **404.2.3 Maneuvering Clearances at Doors.**

Minimum maneuvering clearances at doors shall comply with Section 404.2.3 and shall include the full clear opening width of the doorway. Required door maneuvering clearances shall **not** include knee and toe clearance.



\* If both closer and latch are provided

\*\* 48" min. (1220) if both closer and latch provided

### (e) Hinge Approach, Push Side

Wisconsin Department of Safety and  
Professional Services

# ICC A117.1 Section 405.9

## Edge Protection Along the Sides of Ramp Runs

### • 2003 ICC A117.1

**405.9 Edge Protection.** Edge protection complying with Section 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

Exceptions:

1. Ramps not required to have handrails where curb ramp flares complying with Section 406.3 are provided.
2. Sides of ramp landings serving an adjoining ramp run or stairway.
3. Sides of ramp landings having a vertical drop-off of ½ inch (13mm) maximum within 10 inches (255mm) horizontally of the minimum landing area.

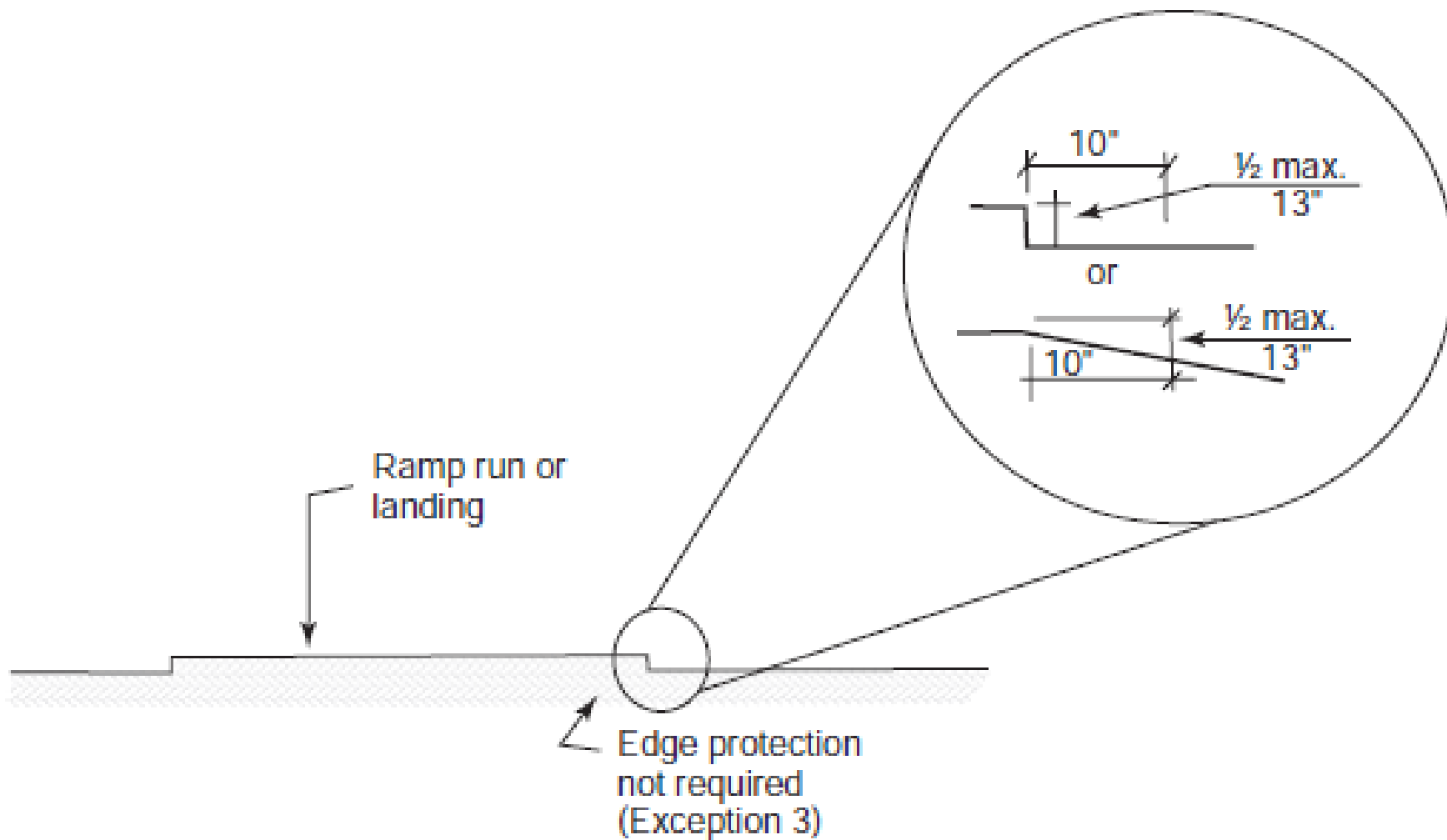
### • 2009 ICC A117.1

**405.9 Edge Protection.** Edge protection complying with Section 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

**Exceptions:**

**New number 4.**

- 4. Edge protection shall not be required on the sides of ramped aisles where the ramps provide access to the adjacent seats and aisle access ways.**



# ICC A117.1 Section 405.9

## Edge Protection Along the Sides of Ramp Runs

- 2003 ICC A117.1

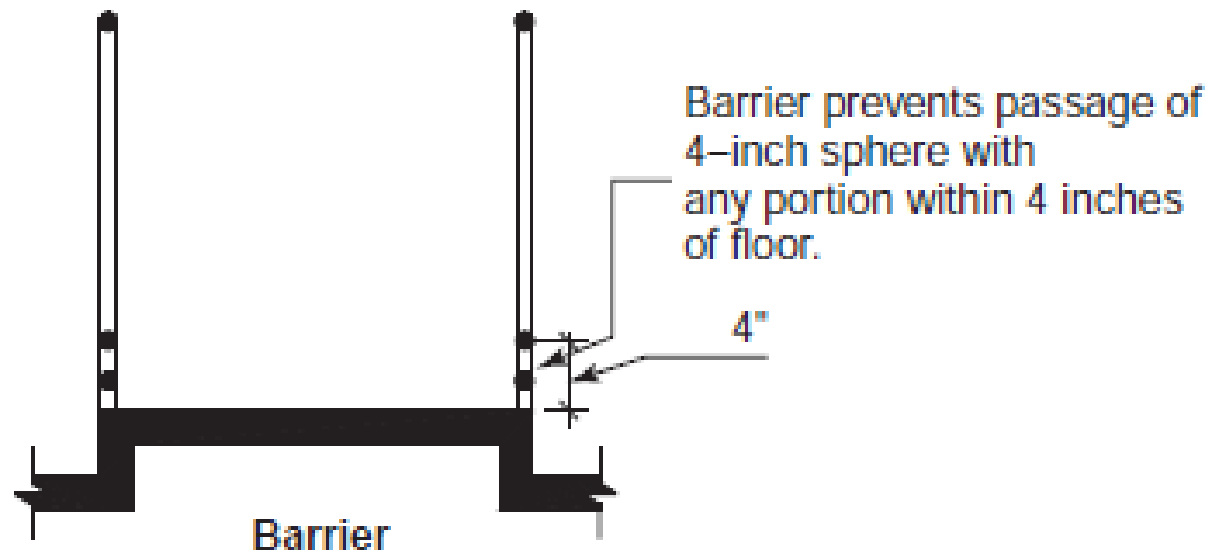
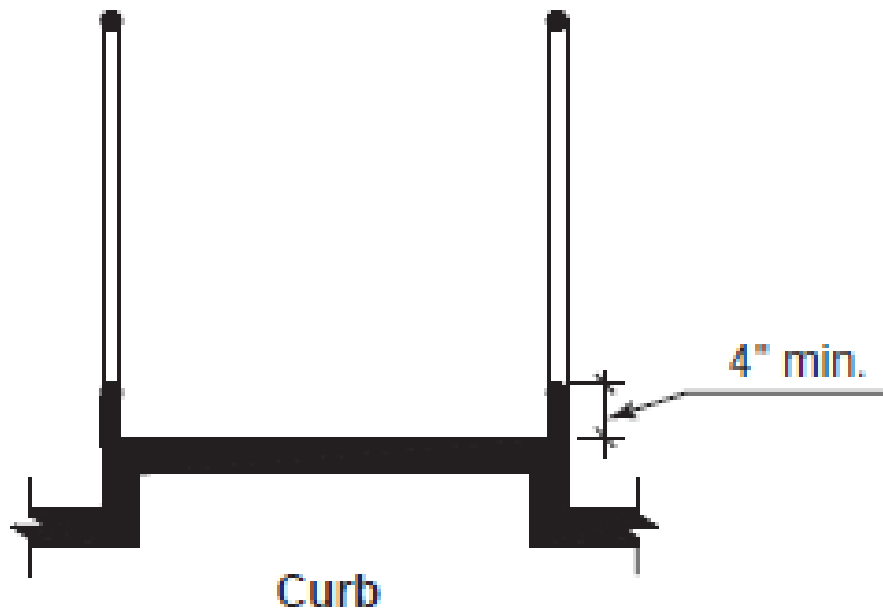
### **405.9.2 Curb or Barrier.**

A curb or barrier shall be provided that prevents the passage of a 4-inch (100mm) diameter sphere where any portion of the sphere is within 4 inches (100mm) of the floor.

- 2009 ICC A117.1

**405.9.2 Curb or Barrier.** A curb complying with Section 405.9.2.1 or a barrier complying with Section 405.9.2.2 shall be provided.

- **405.9.2.1 Curb.** A curb shall be a minimum of 4 inches (100 mm) in height.
- **405.9.2.2 Barrier.** Barriers shall be constructed so that the barrier ~~that~~ prevents the passage of a 4-inch (100 mm) diameter sphere where any portion of the sphere is within 4 inches (100 mm) of the floor.





# ICC A117.1 Section 602.2

## Clear Floor Space at Drinking Fountains

### • 2003 ICC A117.1

#### 602 Drinking Fountains

**602.2 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a forward approach to the drinking fountain, shall be provided. Knee and toe space complying with Section 306 shall be provided. The clear floor space shall be centered on the drinking fountain

#### Exceptions:

1. Drinking fountains for standing persons.
2. Drinking fountains primarily for children's use shall be permitted where the spout outlet is 30 inches (760 mm) maximum above the floor, and a parallel approach complying with Section 305 is provided, and the clear floor space is centered on the drinking fountain, is provided.
3. In existing buildings, existing drinking fountains providing a parallel approach complying with Section 305, centered on the drinking fountain, shall be permitted.
4. Where specifically permitted by the administrative authority, a parallel approach complying with Section 305, centered on the drinking fountain, shall be permitted for drinking fountains that replace existing drinking fountains with a parallel approach.

### • 2009 ICC A117.1

#### 602 Drinking Fountains

**602.2 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a forward approach to the drinking fountain, shall be provided. Knee and toe space complying with Section 306 shall be provided. The clear floor space shall be centered on the drinking fountain.

#### Exceptions:

1. Drinking fountains for standing persons.
2. Drinking fountains primarily for children's use shall be permitted where the spout outlet is 30 inches (760 mm) maximum above the floor, and a parallel approach complying with Section 305 is provided, and the clear floor space is centered on the drinking fountain, is provided.
- ~~3. In existing buildings, existing drinking fountains providing a parallel approach complying with Section 305, centered on the drinking fountain, shall be permitted.~~
- ~~4. Where specifically permitted by the administrative authority, a parallel approach complying with Section 305, centered on the drinking fountain, shall be permitted for drinking fountains that replace existing drinking fountains with a parallel approach~~

# ICC A117.1 Section 603.2

## Clearances in Toilet and Bathing Rooms

- 2003 ICC A117.1

### 603 Toilet and Bathing Rooms

#### 603.2.1 Turning space.

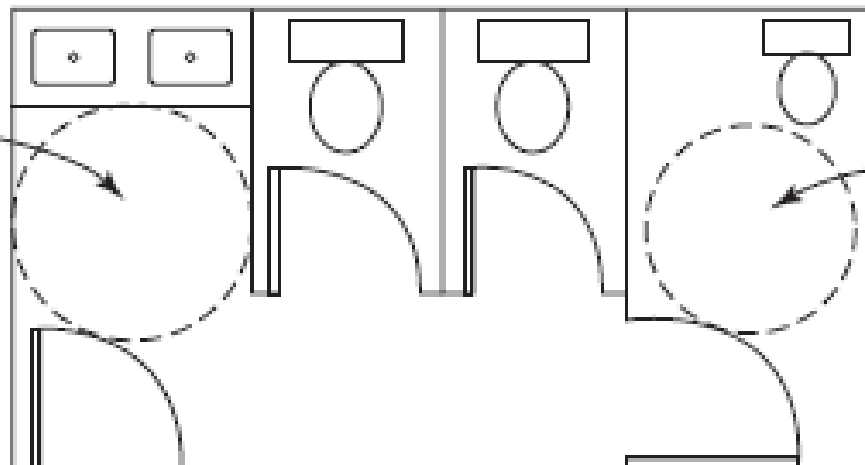
A turning space complying with Section 304 shall be provided within the room.

- 2009 ICC A117.1

### 603 Toilet and Bathing Rooms

**603.2.1 Turning space.** A turning space complying with Section 304 shall be provided within the room. The required turning space shall not be provided within a toilet compartment.

Required turning space shall not be within a toilet compartment



Additional turning space is permitted within compartment

Type A & B unit requirements regarding **grab bars and shower seats** have been relocated to **Chapter 10**.

- By deleting these requirements from Chapter 6 and relocating them to Chapter 10, it will allow the provisions to be with the type of dwelling unit that each of the provisions applies to.
- This allows the requirements for the various dwelling units to be found in one location instead of needing to refer to Chapter 6 and then finding out that an exception allows either the elimination or the revision of the grab bar requirements.

# ICC A117.1 Section 604.5.3

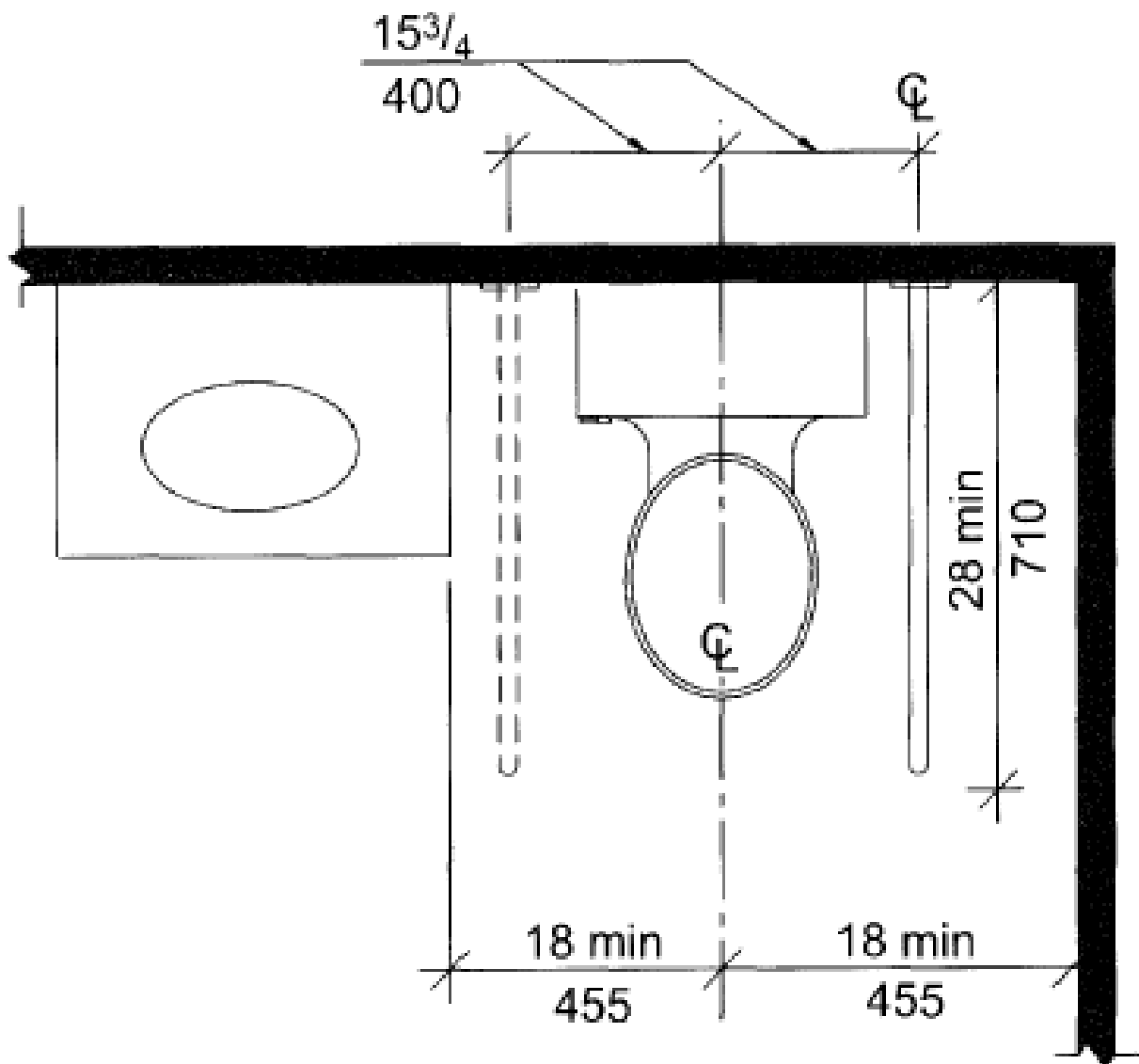
## Swing-up Grab Bars

- 2003 ICC A117.1

**604.5.3 Swing-up Grab Bars.** Where swing-up grab bars are installed, a clearance of 18 inches (455 mm) minimum from the centerline of the water closet to any side wall or obstruction shall be provided. A swing-up grab bar shall be installed with the centerline of the grab bar 1 5<sup>3</sup>/<sub>4</sub> inches (400 mm) from the centerline of the water closet. Swing-up grab bars shall be 28 inches (710 mm) minimum in length, measured from the wall to the end of the horizontal portion of the grab bar.

- 2009 ICC A117.1

~~**604.5.3 Swing-up Grab Bars.** Where swing-up grab bars are installed, a clearance of 18 inches (455 mm) minimum from the centerline of the water closet to any side wall or obstruction shall be provided. A swing-up grab bar shall be installed with the centerline of the grab bar 1 5<sup>3</sup>/<sub>4</sub> inches (400 mm) from the centerline of the water closet. Swing-up grab bars shall be 28 inches (710 mm) minimum in length, measured from the wall to the end of the horizontal portion of the grab bar.~~



**FIG. 1004.11.1.1**  
**SWING-UP GRAB BAR FOR WATER CLOSET**

# ICC A117.1 Section 604.9.3

## Doors for Wheelchair-Accessible Compartments

- 2003 ICC A117.1

**604.9.3 Doors.** Toilet compartment doors, including door hardware, shall comply with Section 404.1, except if the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (100 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment

- 2009 ICC A117.1

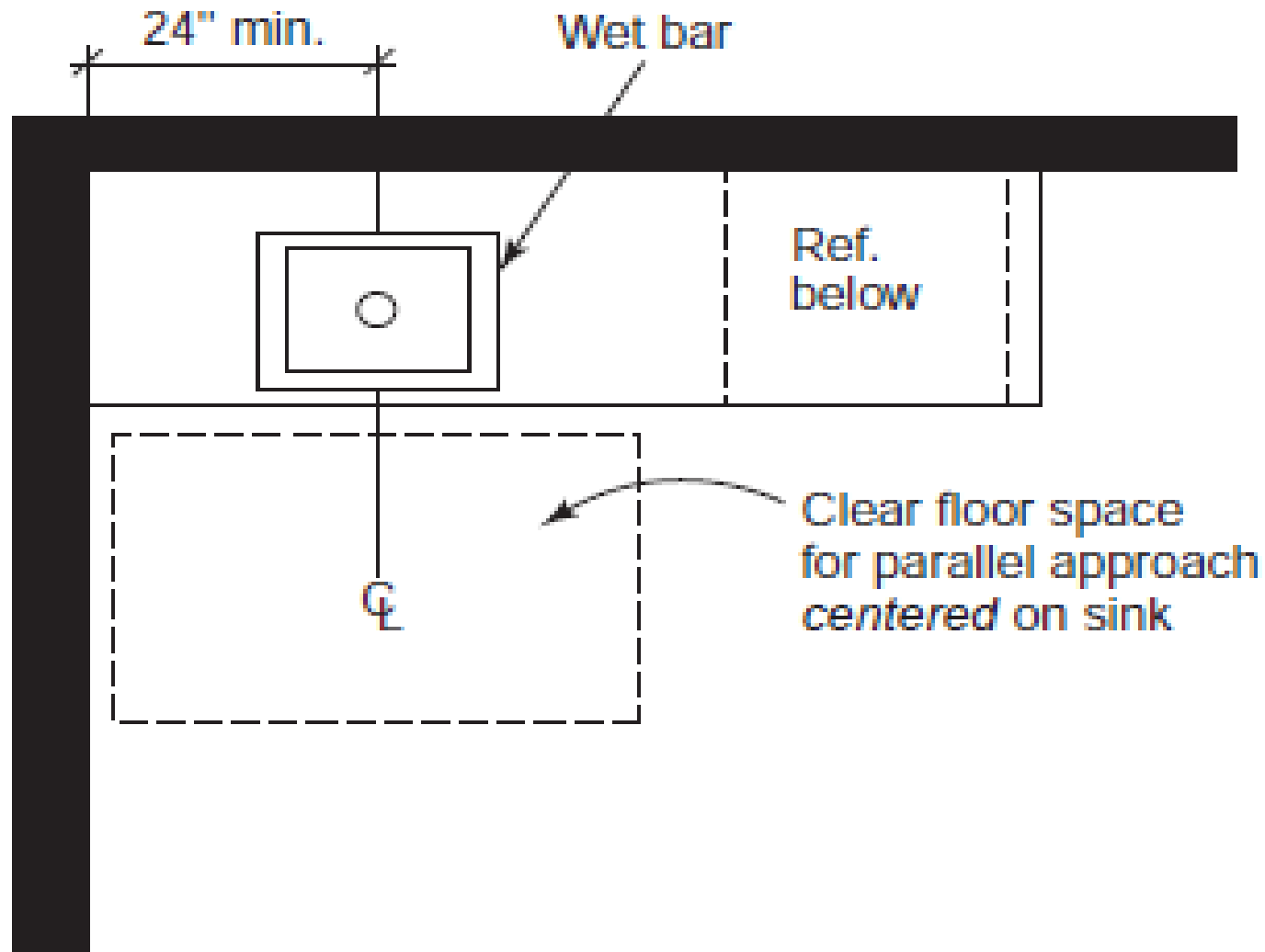
**604.9.3 Doors.** Toilet compartment doors, including door hardware, shall comply with Section 404.1, except if the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum. ~~Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where~~ located in the front partition, the door opening shall be 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (100 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the required minimum area of the compartment

**TABLE 604.9.3.1** Door Opening Location

<u>Door Opening Location</u>	<u>Measured From</u>	<u>Dimension</u>
<u>Front Wall or Partition</u>	<u>From the side wall or partition closest to the water closet</u>	<u>56 inches (1420 mm) minimum</u>
	<b>or</b>	
	<u>From the side wall or partition farthest from the water closet</u>	<u>4 inches (100 mm) maximum</u>
<u>Side Wall or Partition Wall-Hung Water Closet</u>	<u>From the rear wall</u>	<u>52 inches (1320 mm) minimum</u>
	<b>or</b>	
	<u>From the front wall or partition</u>	<u>4 inches (100 mm) maximum</u>
<u>Side Wall or Partition Floor-Mounted Water Closet</u>	<u>From the rear wall</u>	<u>55 inches (1395 mm) minimum</u>
	<b>or</b>	
	<u>From the front wall or partition</u>	<u>4 inches (100 mm) maximum</u>



## ICC Section 606.2 Side Approach Kitchenette



# ICC A117.1 Section 608.2

## Sizes and Clearances for Shower Compartments

- 2003 ICC A117.1

### 608.2 Size and Clearances

**608.4 Seats.** A folding or non-folding seat shall be provided in transfer-type shower compartments. A seat shall be provided in an alternate roll-in type shower compartment. In standard and alternate type showers where a seat is provided, if the seat extends over the minimum clear inside dimension required by 608.2.2 or 608.2.3, the seat shall be a folding seat. Seats shall comply with 610.

- 2009 ICC A117.1

### 608.2 Size, Clearances and Seat

#### 608.2.1 Transfer-Type Shower Compartments

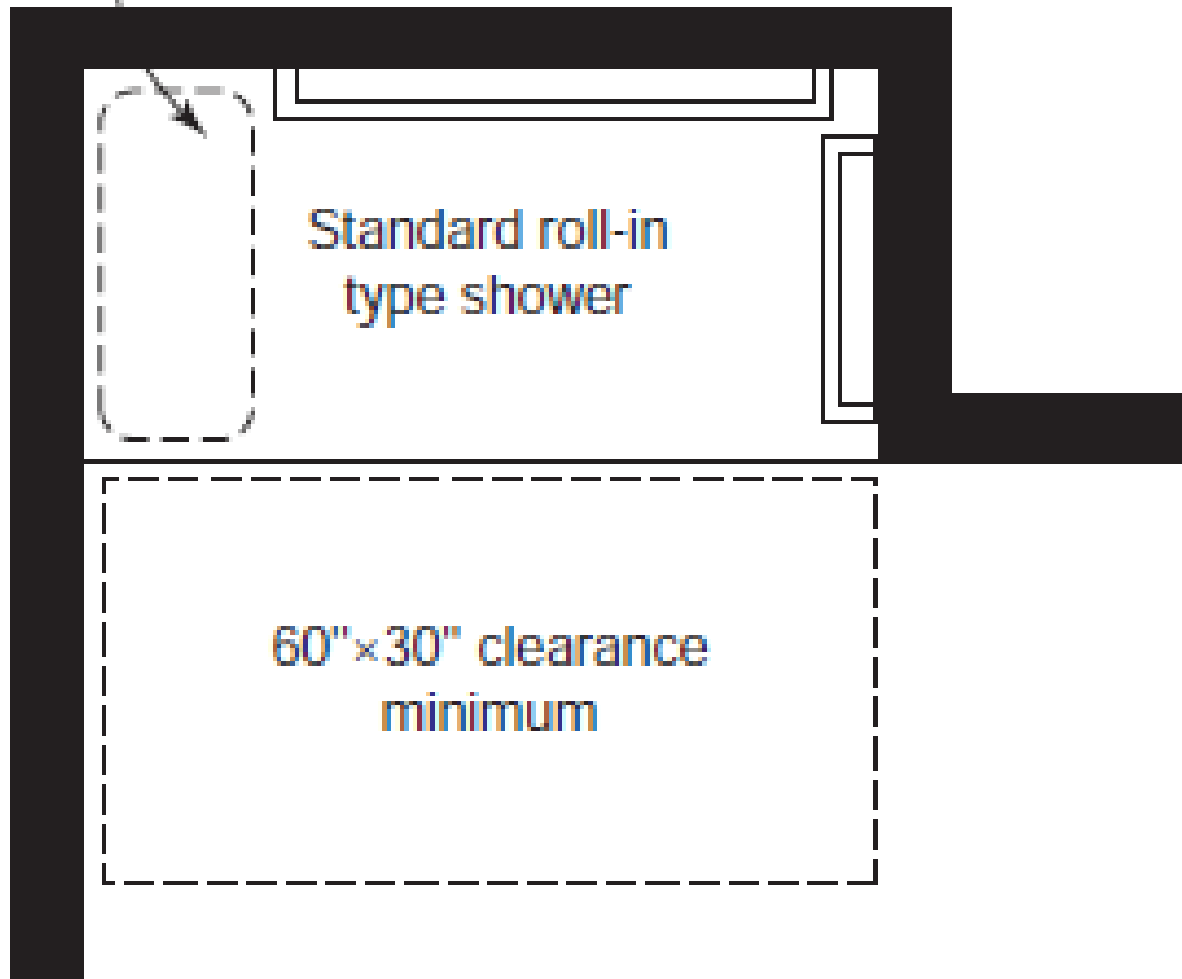
#### 608.2.2 Standard Roll-in-Type Shower Compartments

#### 608.2.3 Alternate Roll-in-Type Shower Compartments

**Seat.** A folding or non-folding seat complying with Section 610 shall be provided on the wall opposite the control wall.

**Exception:** A seat is not required to be installed in a shower for a single occupant, **accessed only through a private office and not for common use or public use**, provided reinforcement has been installed in walls and located so as to permit the installation of a shower seat.

Folding seat complying  
with Section 610 shall  
be provided



# ICC A117.1 Section 608.3.2

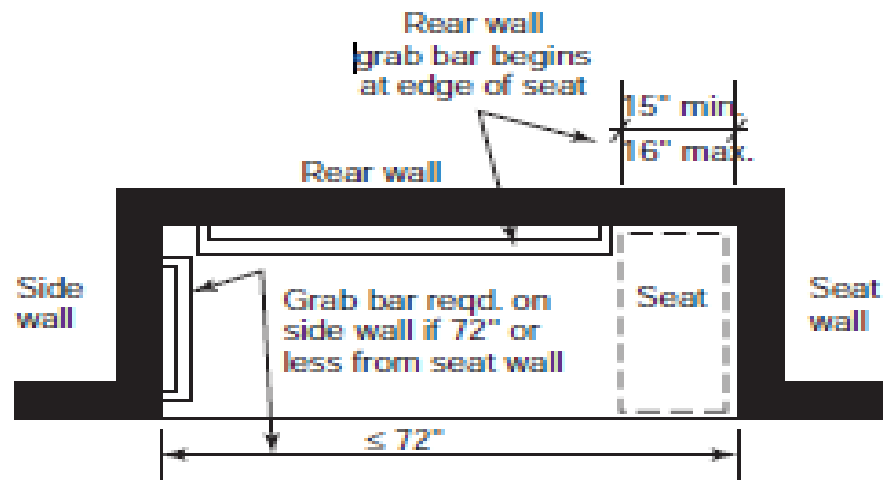
## Grab Bars for Standard Roll-in-Type Showers

- 2003 ICC A117.1

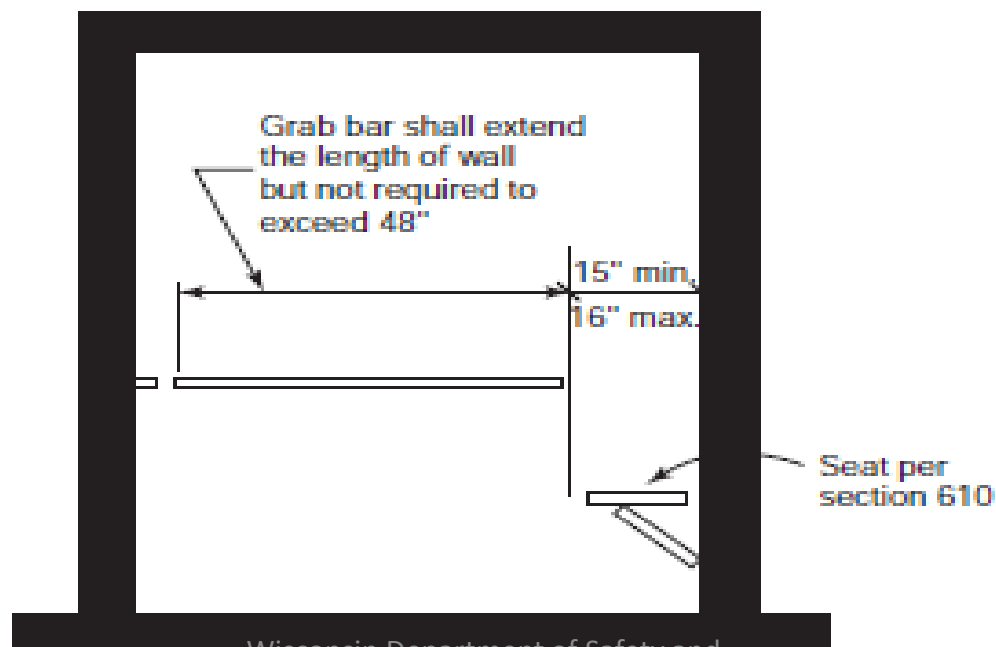
**608.3.2 Standard Roll-in-Type Showers.** In standard roll-in-type showers, grab bars shall be provided on three walls of showers without seats. Where a seat is provided in a standard roll-in type shower, a grab bars shall be provided on the back wall and on the wall opposite beginning at the edge of the seat. The grab bars shall not be provided above the seat. Grab bars shall be 6 inches (150 mm) maximum from the adjacent wall.

- 2009 ICC A117.1

**608.3.2 Standard Roll-in-Type Showers.** In standard roll-in-type showers, ~~grab bars shall be provided on three walls of showers without seats.~~ Where a seat is provided in a standard roll-in type shower, a grab bar shall be provided on the back wall and on the wall opposite beginning at the edge of the seat. The grab bars shall not be provided above the seat. The back wall grab bar shall extend the length of the wall but shall not be required to exceed 48 inches (1220 mm) in length. Where a side wall is provided opposite the seat within 72 inches (1830 mm) of the seat wall, a grab bar shall be provided on the side wall opposite the seat. The side wall grab bar shall extend the length of the wall but shall not be required to exceed 30 inches (760 mm) in length. Grab bars shall be 6 inches (150 mm) maximum from the adjacent wall.



**(a) Standard Roll-in-type Shower-plan view**



Wisconsin Department of Safety and  
**(b) Elevation of back wall**

# ICC A117.1 Section 609

## Grab Bar Clearance and Height

- 2003 ICC A117.1

### 604.10 Water Closets and Toilet Compartments for Children's Use

**604.10.5 – Grab Bars.** Grab bars for water closets shall comply with Section 604.5

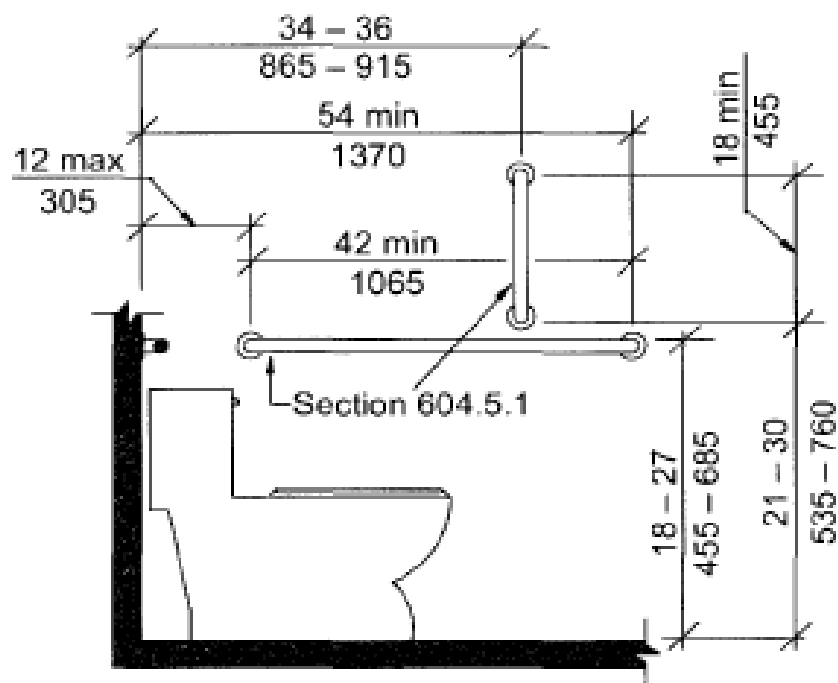
**604.5 – Grab Bars.**  
(Adult Height)

Also Commentary Table C604.10

- 2009 ICC A117.1

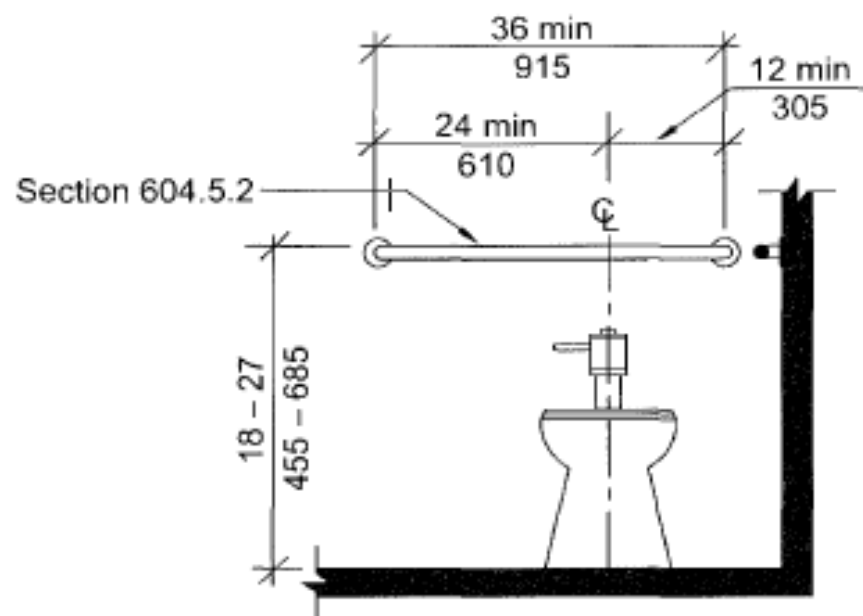
### 609.4 Position of Grab Bars

**609.4.2 Position of Children's Grab Bars.** At water closets primarily for children's use complying with Section 604.11, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the floor measured to the top of the gripping surface. A vertical grab bar shall be mounted with the bottom of the bar located between 21 inches (533 mm) minimum and 30 inches (760 mm) maximum above the floor and with the centerline of the bar located between 34 inches (865 mm) minimum and 36 inches (915 mm) maximum from the rear wall.



Note: For adult dimensions see Fig. 604.5.1

(a) Side Wall View



Note: For adult dimensions see Fig. 604.5.2

(b) Rear Wall View

**FIG. 609.4.2**  
**POSITION OF CHILDREN'S GRAB BARS**

# ICC A117.1 Section 612

## Saunas and Steam Rooms

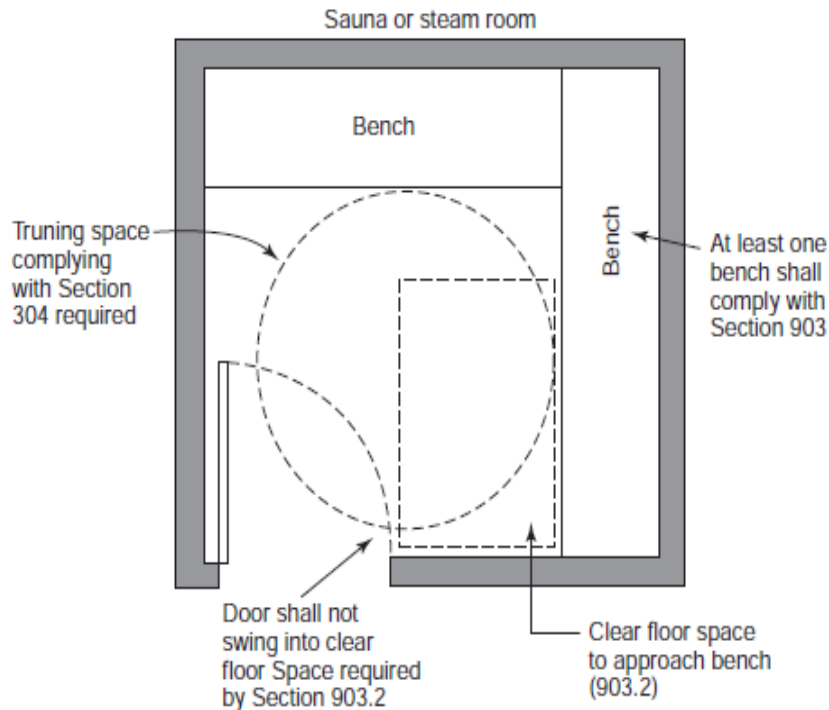
- 2009 ICC A117.1

### 612 Saunas and Steam Rooms

**612.1 General.** Saunas and steam rooms shall comply with Section 612.

**612.2 Bench.** Where seating is provided in saunas and steam rooms, at least one bench shall comply with Section 903. Doors shall not swing into the clear floor space required by Section 903.2.

**612.3 Turning space.** A turning space complying with Section 304 shall be provided within saunas and steam rooms.





# ICC A117.1 Section 703.1

## General Provisions for Signs

- 2003 ICC A117.1
- 2009 ICC A117.1

### 703.1 General.

### Accessible signs shall comply with 703

**703.1 General.** Accessible signs shall comply with Section 703. Tactile signs shall contain both raised characters and braille. Where signs with both visual and raised characters are required, either one sign with both visual and raised characters, or two separate signs, one with visual, and one with raised characters, shall be provided.

**703.1.1 Designations.** Interior and exterior signs identifying permanent rooms and spaces shall comply with Sections 703.1, 703.2, and 703.3.

**Exception:** Exterior signs that are not located at the door to the space they serve shall not be required to comply with Section 703.3.

**703.1.2 Directional and Informational Signs.** Signs that provide direction to or information about interior spaces and facilities of the site shall comply with Section 703.2.

**703.1.3 Pictograms.** Where pictograms are provided as designations of permanent interior rooms and spaces, the pictograms shall comply with Section 703.5 and shall have text descriptors located directly below the pictogram field and complying with Sections 703.2 and 703.3.

**Exception:** Pictograms that provide information about a room or space, such as “no smoking,” occupant logos, and the International Symbol of Accessibility, are not required to have text descriptors.

**703.5.4 Text Descriptors.** Where text descriptors for pictograms are required, they shall be located directly below the pictogram field. Text descriptors shall comply with Sections 703.3 and 703.4.

# ICC A117.1 Section 703.7

## Variable Message Signs

- 2003 ICC A117.1

None

- 2009 ICC A117.1

703.7 Variable  
Message Signs



# ICC A117.1 Section 708.4

## Telephone Entry Systems

- 2003 ICC A117.1

None



- 2009 ICC A117.1

### 105.2.7 Performance Criteria for Accessible Communications

Entry Systems. ANSI/DASMA 303-2006. (Door and Access Systems Manufacturers Association, 1300 Sumner Avenue, Cleveland, OH 44115-2851)

### 708.4 Telephone Entry Systems.

Telephone entry systems shall comply with ANSI/DASMA 303 listed in Section 105.2.7.

# ICC A117.1 Section 802.10

## Wheelchair Space Dispersion

- 2003 ICC A117.1

No former definition.

- 2009 ICC A117.1

### **106.5 Defined Terms.**

**Wheelchair space:** A space for a single wheelchair and its occupant.

**Wheelchair space locations:** A space for a minimum of a single wheelchair and the associated companion seating. Wheelchair space locations can contain multiple wheelchair spaces and associated companion seating.

# ICC A117.1 Section 804

## Kitchens and Kitchenettes in Common Use Spaces and Accessible Units

### • 2003 ICC A117.1

**804.1 General.** Accessible kitchens and kitchenettes shall comply with Section 804.

**804.2 Clearance.** Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with Section 804.2.2.

**Exception:** Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2.

**804.3 Work Surface.** At least one work surfaces shall comply with Section 902.

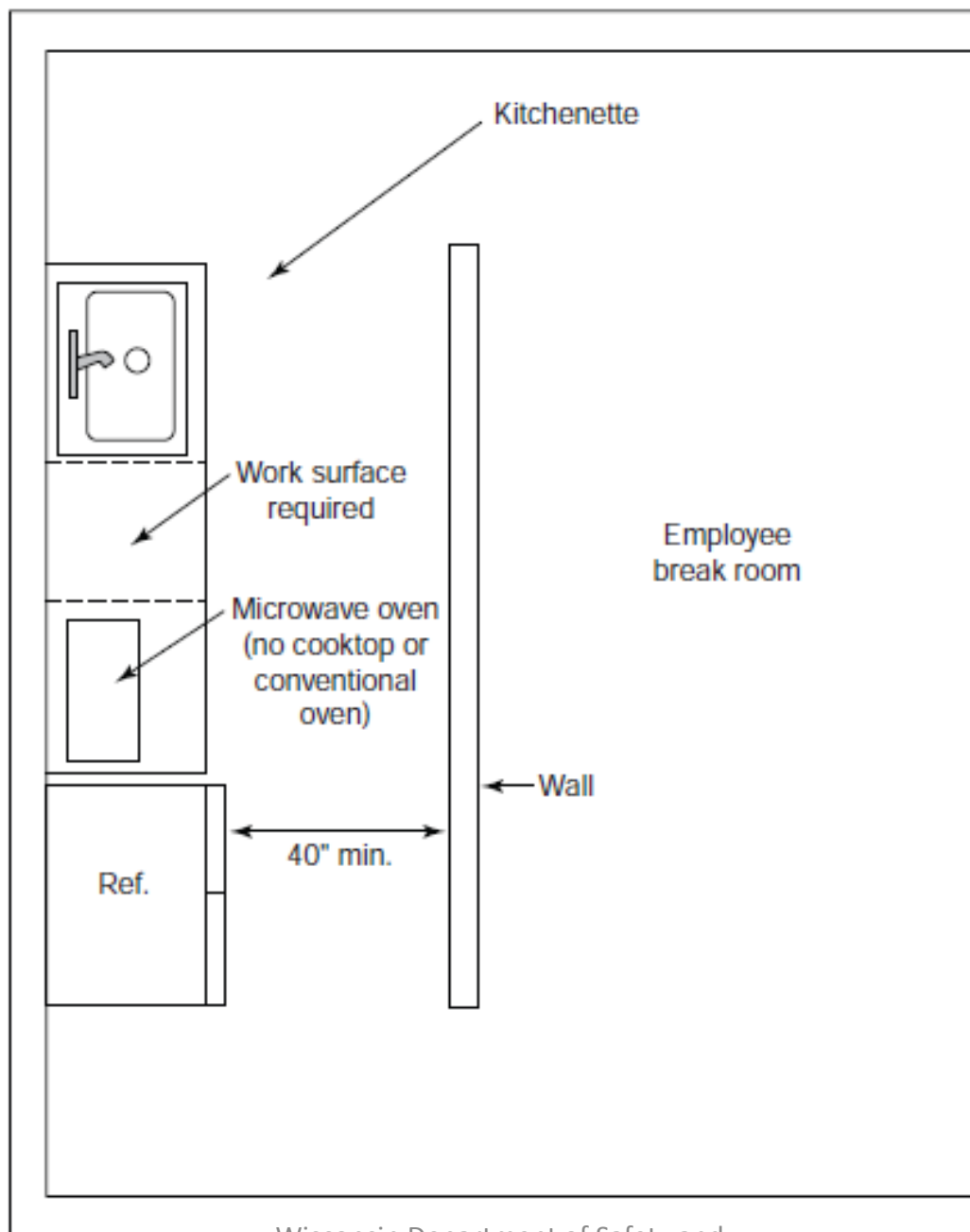
### • 2009 ICC A117.1

**804.1 General.** Accessible kitchens and kitchenettes shall comply with Section 804.

**804.2 Clearance.** Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with Section 804.2.2.

**Exception:** Spaces that do not provide a cooktop or conventional range shall not be required to comply with Section 804.2 provided there is a **40 inch (1015 mm) minimum clearance** between all opposing base cabinets, countertops, appliances, or walls within work areas.

**804.3 Work Surface.** At least one work surface shall ~~comply~~ be provided in accordance with Section 902.



**ICC A117.1 Section 804.5.4, 804.5.5, 1003.12.5.4, 1003.12.5.5,  
1004.12.2.3, 1004.12.2.4  
Cooktops and Ovens**

- References to the word “ranges” have been eliminated. The requirements have been split into two sections: **cooktops and ovens.** Similar changes occurred in accessible units Types A, B and C.

# ICC A117.1 Section 902

## Clear Floor Space for Dining and Work Surfaces

### • 2003 ICC A117.1

#### 902 Dining Surfaces and Work Surfaces

**902.1 General.** Accessible dining surfaces and work surfaces shall comply with Section 902.

- **Exception:** Dining surfaces and work surfaces primarily for children's use shall be permitted to comply with Section 902.5.

**902.2 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided.

### • 2009 ICC A117.1

#### 902 Dining Surfaces and Work Surfaces

**902.1 General.** Accessible dining surfaces and work surfaces shall comply with Section 902.

- **Exception:** Dining surfaces and work surfaces primarily for children's use shall be permitted to comply with Section 902.5.

**902.2 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a forward approach, shall be provided. Knee and toe clearance complying with Section 306 shall be provided.

#### Exceptions:

1. At drink surfaces 12 inches (305 mm) or less in depth, knee and toe space shall not be required to extend beneath the surface beyond the depth of the drink surface provided.

2. Dining surfaces that are 15 inches (380 mm) minimum and 24 inches (610 mm) maximum in height are permitted to have a clear floor space complying with Section 305 positioned for a parallel approach.



# ICC A117.1 Section 902

## Clear Floor Space for Dining and Work Surfaces

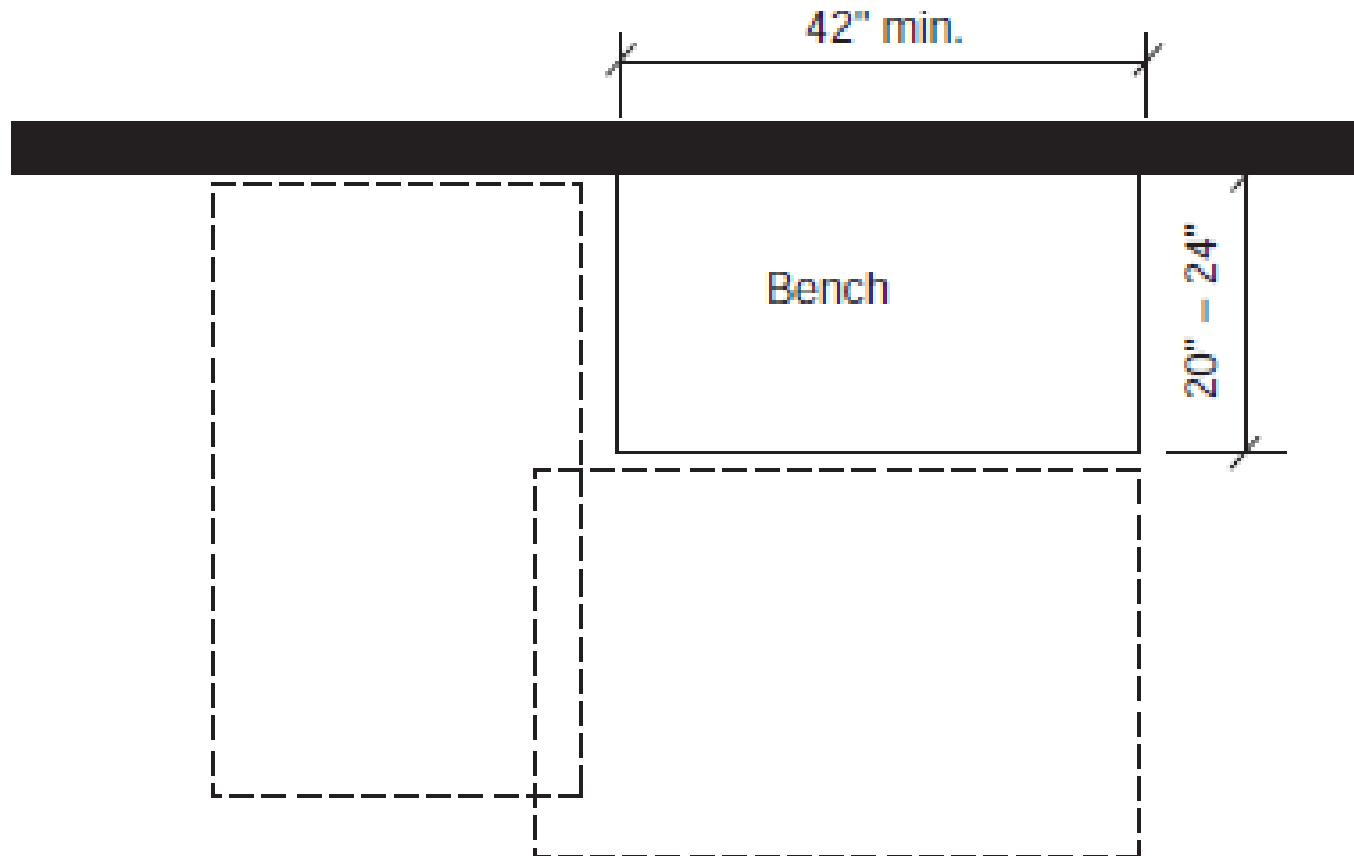
- 2003 ICC A117.1

None

- 2009 ICC A117.1

**902 Dining Surfaces and Work Surfaces**

**902.3 Exposed Surfaces.** There shall be no sharp or abrasive surfaces **under** the exposed portions of dining surfaces and work surfaces.



**(a) Bench size and options for clear floor space**

ICC 903 Benches for Saunas, dressing, fitting and locker rooms

# ICC A117.1 Section 903

## Benches in Locker Rooms, Fitting Rooms, and Dressing Rooms

- 2003 ICC A117.1

### 903 Benches

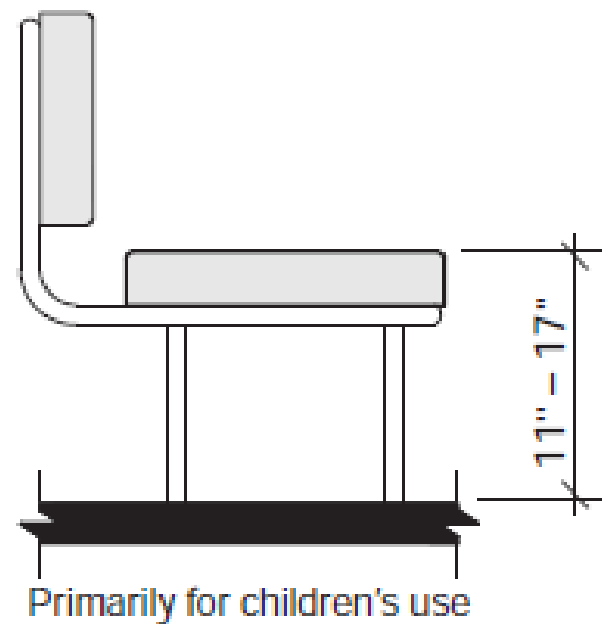
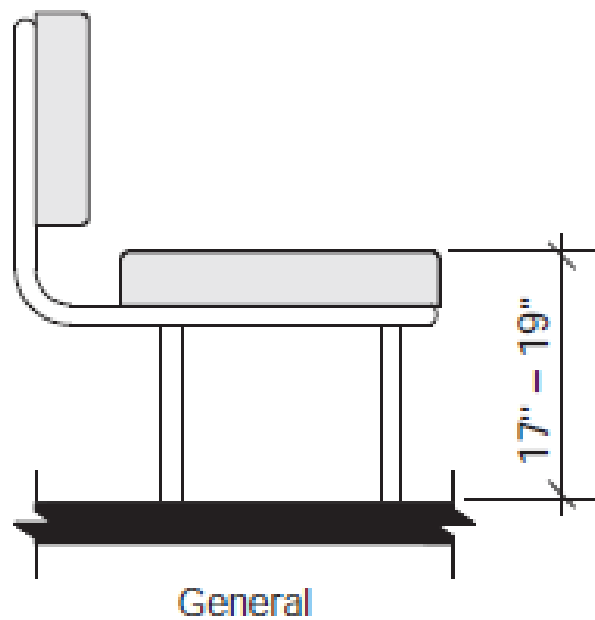
**903.5 Height.** The top of the bench seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the floor, measured to the top of the seat.

- 2009 ICC A117.1

### 903 Benches

**903.5 Height.** The top of the bench seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the floor, measured to the top of the seat.

- **Exception:** Benches primarily for children's use shall be permitted to be 11 inches (280 mm) minimum and 17 inches (430mm) maximum above the floor, measured to the top of the seat.



**(b) Seat height**

Type A & B unit requirements regarding grab bars and shower seats have been relocated from Chapter 6 to Chapter 10.

Many of the exceptions and provisions that apply specifically to blocking for grab bars and shower seats in residential dwelling and sleeping units have been relocated to Chapter 10 so that the dwelling and sleeping unit requirements are together in one location.

# ICC A117.1 Chapter 10 Dwelling Units and Sleeping Units

## Section 1002.3, 1003.3, 1004.3

### Accessible Route and Entrance Requirements for Accessible, Type A, and Type B Units

- **2003 ICC A117.1**

**1002 Accessible Units**

**1003 Type A Units**

**1004 Type B Units**

- **Primary Entrance.** The accessible primary entrance shall be on an accessible route from public and common areas. The primary entrance shall not be to a bedroom.

- **2009 ICC A117.1**

**1002 Accessible Units**

**1003 Type A Units**

**1004 Type B Units**

- **Primary Entrance.** The accessible primary entrance shall be on an accessible route from public and common areas. The primary entrance shall not be to a bedroom unless it is the only entrance.

# ICC A117.1 Section 1002.3, 1003.3, 1004.3

## Accessible Route and Entrance Requirements for Accessible, Type A, and Type B Units

### • 2003 ICC A117.1

#### 1002.3 Accessible Units

#### 1003.3 Type A Units

**Accessible Route.** Accessible routes within Type A units shall comply with Section 1003.3. Exterior spaces less than 30 inches (760 mm) in depth or width shall comply with Sections 1003.3.1, 1003.3.3, 302, and 303.

**Location.** At least one accessible route shall connect all spaces and elements that are a part of the unit. Accessible routes shall coincide with or be located in the same area as a general circulation path. Where only one accessible route is provided, it shall not pass through bathrooms and toilet rooms, closets, or similar spaces.

- **Exception:** An accessible route is not required to unfinished attics and unfinished basements that are part of the unit.

### • 2009 ICC A117.1

#### 1002.3 Accessible Units

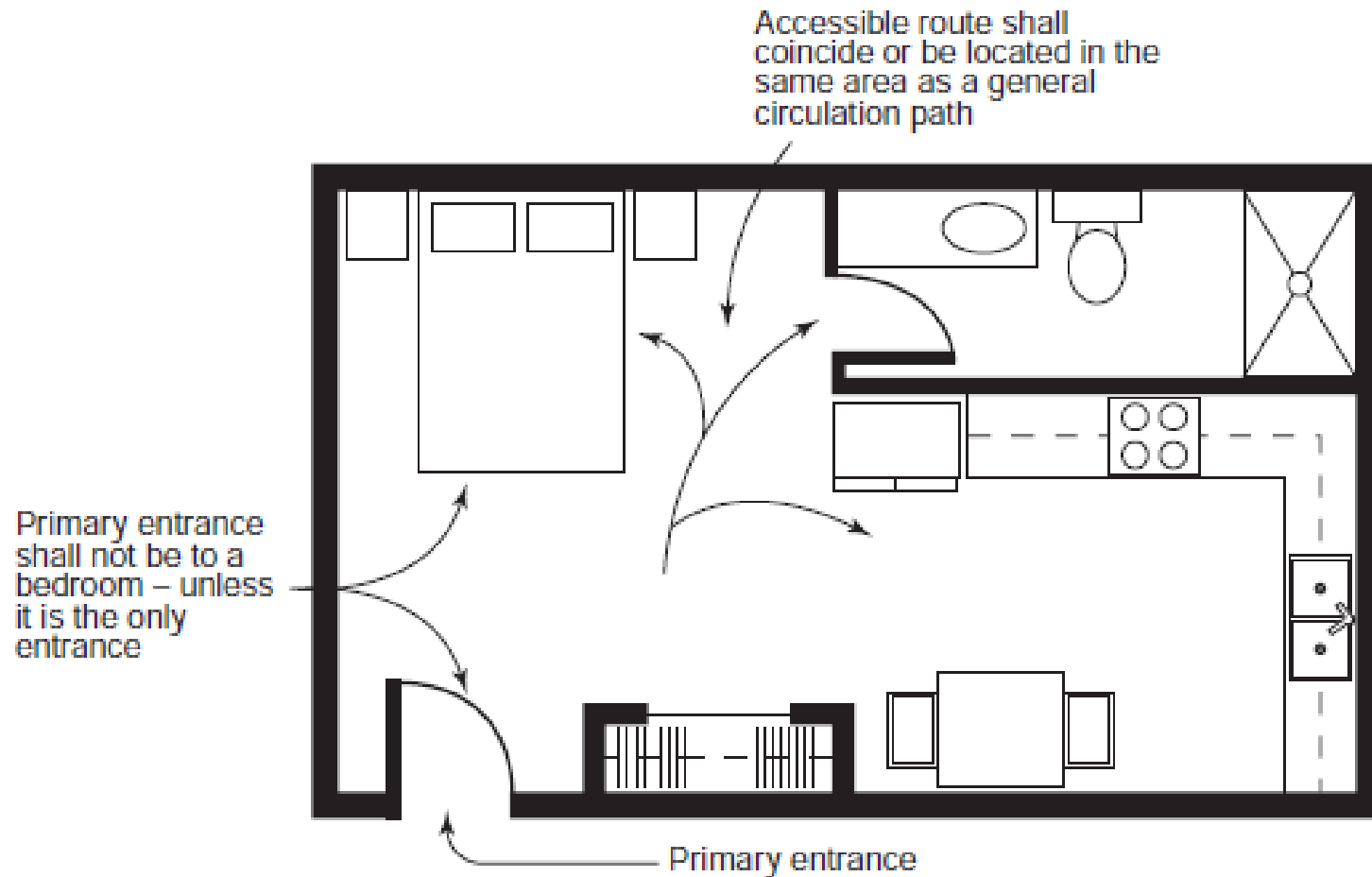
#### 1003.3 Type A Units

**Accessible Route.** Accessible routes within Type A units shall comply with Section 1003.3. Exterior spaces less than 30 inches (760 mm) in depth or width shall comply with Sections 1003.3.1, 1003.3.3, 302, and 303.

**Location.** At least one accessible route shall connect all spaces and elements that are a part of the unit.

**Accessible routes shall coincide with or be located in the same area as a general circulation path.**  
~~**Where only one accessible route is provided, it shall not pass through bathrooms and toilet rooms, closets, or similar spaces.**~~

- **Exception:** An accessible route is not required to unfinished attics and unfinished basements that are part of the unit.



***1002.3, 1003.3, 1004.3 continues***



# ICC A117.1 Section 1002.3, 1003.3, 1004.3

## Accessible Route and Entrance Requirements for Accessible, Type A, and Type B Units

### • 2003 ICC A117.1

**1004.3 Accessible Route.** Accessible routes within Type B units shall comply with Section 1004.3.

**1004.3.1 Location.** At least one accessible route shall connect all spaces and elements that are a part of the unit. Accessible routes shall coincide with or be located in the same area as a general circulation path. Where only one accessible route is provided, it shall not pass through bathrooms and toilet rooms, closets, or similar spaces.

**Exception:**

### • 2009 ICC A117.1

**1004.3 Accessible Route.** Accessible routes within Type B units shall comply with Section 1004.3.

**1004.3.1 Location.** At least one accessible route shall connect all spaces and elements that are a part of the unit. Accessible routes shall coincide with or be located in the same area as a general circulation path. ~~Where only one accessible route is provided, it shall not pass through bathrooms and toilet rooms, closets, or similar spaces.~~

**Exceptions:**

1. An accessible route is not required to unfinished attics and unfinished basements that are part of the unit.

# ICC A117.1 Section 1002.3.2, 1003.3.2 Turning Space

- 2003 ICC A117.1

## 1002 Accessible Units

**1002.3.2 Turning Space.** All rooms served by an accessible route shall provide a turning space complying with Section 304.

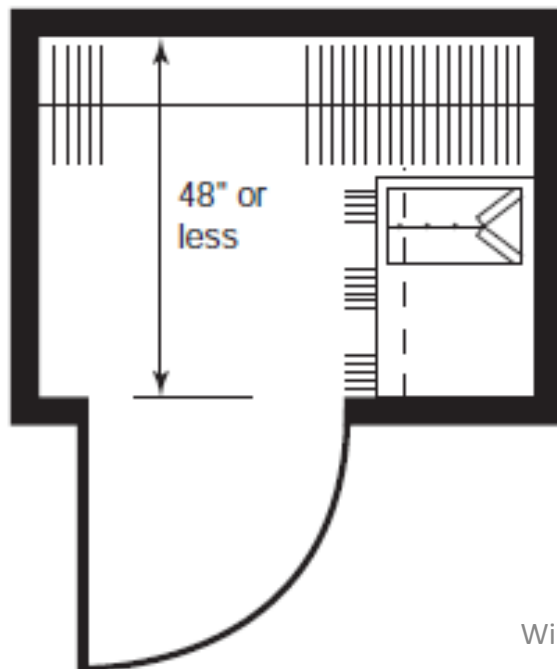
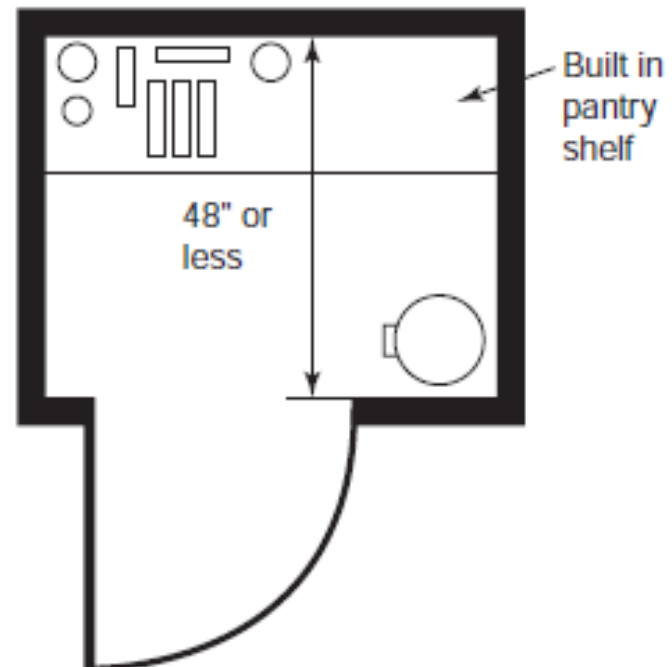
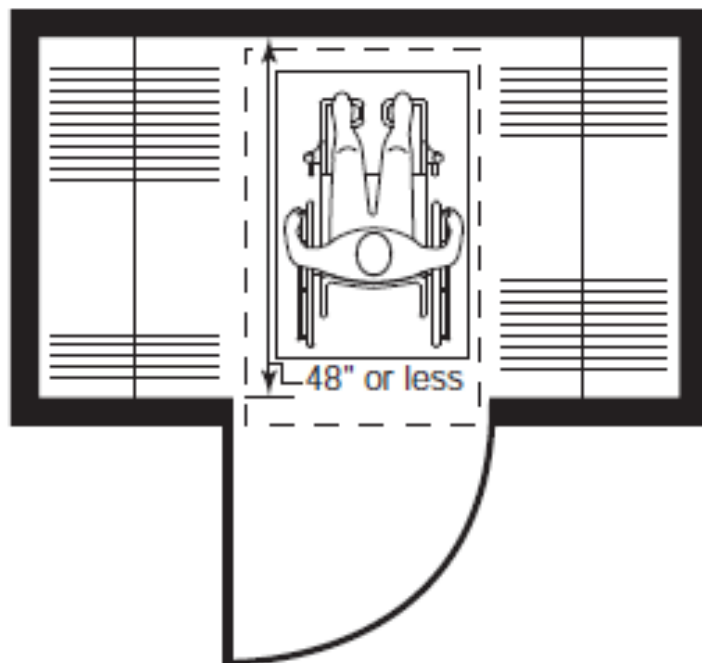
- 2009 ICC A117.1

## 1002 Accessible Units

**1002.3.2 Turning Space.** All rooms served by an accessible route shall provide a turning space complying with Section 304.

### Exceptions:

1. A turning space shall not be required in toilet rooms and bathrooms that are not required to comply with Section 1002.11.2.
2. A turning space is not required within closets or pantries that are 48 inches (1220 mm) maximum in depth.



A turning space is not required in closets or pantries not deeper than 48 inches.

# ICC A117.1 Section 1002.5, 1003.5, 1004.5

## Doors and Doorways

### • 2003 ICC A117.1

#### 1002 Accessible Units

**1002.5 Doors and Doorways.** The primary entrance door to the unit, and all other doorways intended for user passage, shall comply with Section 404.

#### Exceptions:

1. Existing doors to hospital patient sleeping rooms shall be exempt from the requirement for space at the latch side provided the door is 44 inches (1120 mm) minimum in width.

### • 2009 ICC A117.1

#### 1002 Accessible Units

**1002.5 Doors and Doorways.** The primary entrance door to the unit, and all other doorways intended for user passage, shall comply with Section 404.

#### Exceptions:

1. Existing doors to hospital patient sleeping rooms shall be exempt from the requirement for space at the latch side provided the door is 44 inches (1120 mm) minimum in width.

2. In toilet rooms and bathrooms not required to comply with Section 1002.11.2, maneuvering clearances required by Section 404.2.3 are not required on the toilet room or bathroom side of the door.

3. A turning space between doors in a series as required by Section 404.2.5 is not required.

4. Storm and screen doors are not required to comply with Section 404.2.5.

5. Communicating doors between individual sleeping units are not required to comply with Section 404.2.5.

6. At other than the primary entrance door, where exterior space dimensions of balconies are less than the required maneuvering clearance, door-maneuvering clearance is not required on the exterior side of the door.



# ICC A117.1 Section 1002.5, 1003.5, 1004.5

## Doors and Doorways

### • 2003 ICC A117.1

#### 1003 Type A Units

**1003.5 Doors and Doorways.** The primary entrance door to the unit, and all other doorways intended for user passage, shall comply with Section 404.

#### Exceptions:

1. Thresholds at exterior sliding doors shall be permitted to be 3/4 inch (19 mm) maximum in height, provided they are beveled with a slope not greater than 1:2.
2. In toilet rooms and bathrooms not required to comply with Section 1003.11.2, maneuvering clearances required by Section 404.2.3 are not required on the toilet room or bathroom side of the door.

### • 2009 ICC A117.1

#### 1003 Type A Units

**1003.5 Doors and Doorways.** The primary entrance door to the unit, and all other doorways intended for user passage, shall comply with Section 404.

#### Exceptions:

1. Same
2. Same
3. A turning space between doors in a series as required by Section 404.2.5 is not required.
4. Storm and screen doors are not required to comply with Section 404.2.5.
5. Communicating doors between individual sleeping units are not required to comply with Section 404.2.5.
6. At other than the primary entrance door, where exterior space dimensions of balconies are less than the required maneuvering clearance, door-maneuvering clearance is not required on the exterior side of the door.

# ICC A117.1 Section 1002.5, 1003.5, 1004.5

## Doors and Doorways

- 2003 ICC A117.1

### 1004 Type B Units

**1004.5 Doors and Doorways.** Doors and doorways shall comply with Section 1004.5.

**1004.5.1 Primary Entrance Door.** The primary entrance door to the unit shall comply with Section 404.

**Exception:** Maneuvering clearances required by Section 404.2.3 shall not be required on the unit side of the primary entrance door.

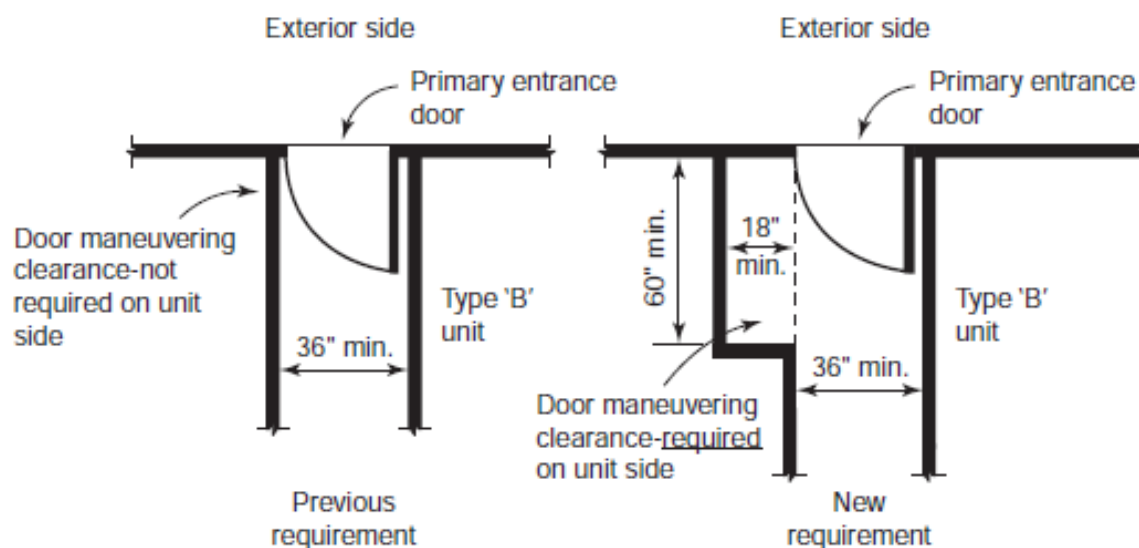
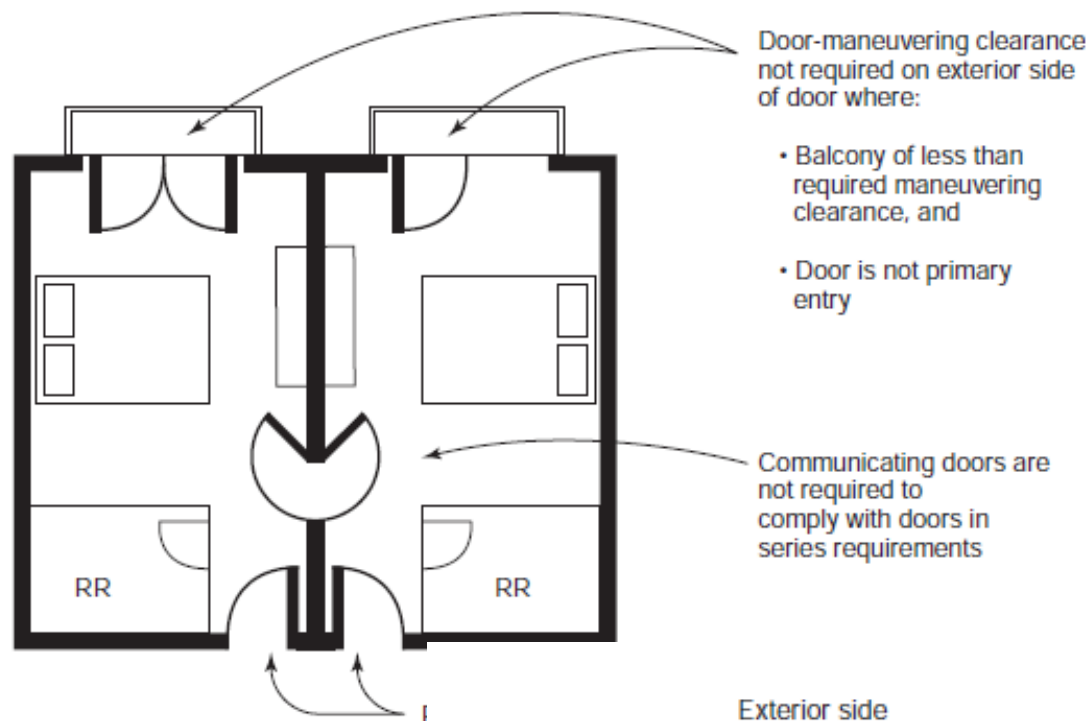
- 2009 ICC A117.1

### 1004 Type B Units

**1004.5 Doors and Doorways.** Doors and doorways shall comply with Section 1004.5.

**1004.5.1 Primary Entrance Door.** The primary entrance door to the unit shall comply with Section 404.

**Exception:** ~~Maneuvering clearances required by Section 404.2.3 shall not be required on the unit side of the primary entrance door.~~ Storm and screen doors serving individual dwelling or sleeping units are not required to comply with Section 404.2.5.



# ICC A117.1 Section 1002.9, 1003.9, 1004.9

## Operable Parts

- 2003 ICC A117.1

**SPS 362.1101 Design.** These are department rules in addition to the requirements in IBC section 1101.2 and ICC/ANSI A117.1 sections 1003 and 1004:

**SPS 362.1101(1) (1) TYPE A AND TYPE B UNITS.**

**SPS 362.1101(1)(a) *Circuit breakers.*** Circuit breakers, when provided for use by tenants in occupancies with dwelling and sleeping units, shall comply with ICC/ANSI A117.1 section 309.2 and 309.3.

- 2009 ICC A117.1

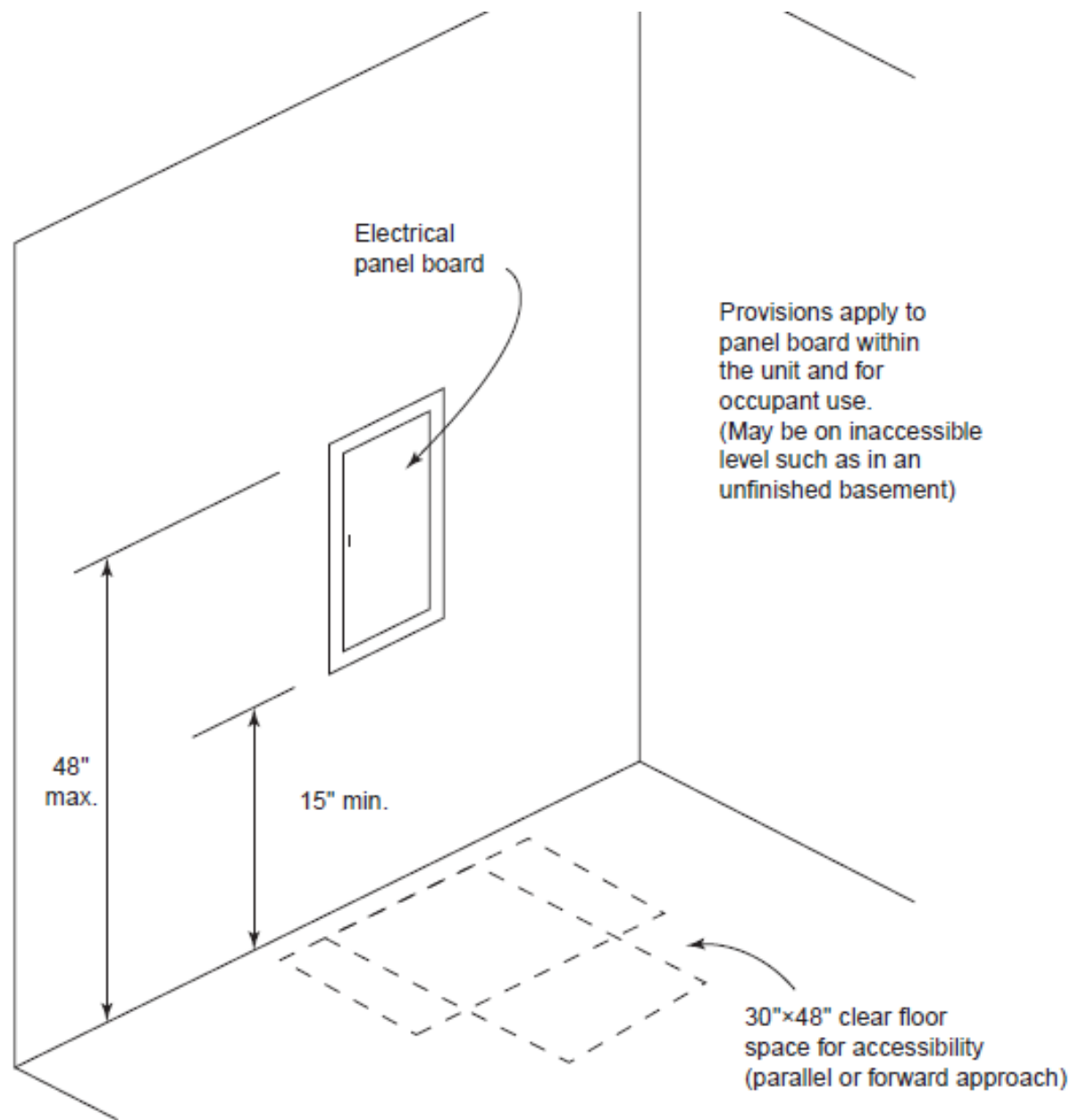
**1002.9 Accessible Units**

**1003.9 Type A Units**

**1004.9 Type B Units**

**Operable Parts.** Lighting controls, electrical panelboards, electrical switches and receptacle outlets, environmental controls, appliance controls, operating hardware for operable windows, plumbing fixture controls, and user controls for security or intercom systems shall comply with Section 309.





See electrical code  
for additional clearance  
requirements

# ICC A117.1 Section 1002.9, 1003.9, 1004.9

## Operable Parts

### • 2003 ICC A117.1

#### 1002.9 Accessible Units

#### 1003.9 Type A Units

#### Exceptions:

**2.** One receptacle outlet shall not be required to comply with

Section 309 where all of the following conditions are met:

**(a)** the receptacle outlet is above a length of countertop that is

uninterrupted by a sink or appliance;

**(b)** at least one receptacle outlet complying with Section 1002.9 is

provided for that length of countertop; and

**(c)** all other receptacle outlets provided for that length of countertop comply with Section 1002.9.

**7.** None

**8.** None

### • 2009 ICC A117.1

#### 1002.9 Accessible Units

#### 1003.9 Type A Units

#### Exceptions:

~~**2.** One receptacle outlet shall not be required to comply with~~

~~Section 309 where all of the following conditions are met:~~

~~**(a)** the receptacle outlet is above a length of countertop that is uninterrupted by a sink or appliance;~~

~~**(b)** at least one receptacle outlet complying with Section 1002.9 is provided for that length of countertop; and~~

~~**(c)** all other receptacle outlets provided for that length of countertop comply with Section 1002.9.~~

**2.** Where two or more receptacle outlets are provided in a kitchen above a length of countertop that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with 309.

**7.** Reset buttons and shut-offs serving appliances, piping, and plumbing fixtures.

**8.** Electrical panelboards shall not be required to comply with Section 309.4.

ICC A117.1 Section 1002.9, 1003.9, 1004.9  
**Operable Parts**

- 2003 ICC A117.1

**1004.9 Type B Units**

**Exceptions:**

9. None

10. None

- 2009 ICC A117.1

**1004.9 Type B Units**

**Exceptions:**

**9.** Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to be accessible.

**10.** Within kitchens and bathrooms, lighting controls, electrical switches and receptacle outlets are permitted to be located over cabinets with countertops 36 inches (915 mm) maximum in height and 25-1/2 inches (650 mm) maximum in depth.

ICC A117.1 Section 1002.11, 1003.11  
**Toilet and Bathing Facilities in a Multi-Bathroom Unit**

## **Accessible and Type A Units**

- Only 1 toilet room in the unit is required to comply
- Either a shower or a bathtub can be accessible
- Not allowed to pass through other parts of the unit to get to the toilet room
- Added mirror requirement to be installed 40" at accessible lavatories
- Must comply with 604-610

ICC A117.1 Section 1002.12, 1003.12, 1004.12  
Kitchen and Kitchenettes

- 2003 ICC A117.1

**1002.12 – Kitchens.**

Kitchens shall comply with Section 804. At least one work surface, 30 inches minimum in length, shall comply with Section 902.

- 2009 ICC A117.1

**1002 Accessible Units**

**1002.12 Kitchens and**

**Kitchenettes.** Kitchens and kitchenettes shall comply with Section 804. At least one work surface, 30 inches (760 mm) minimum in length, shall comply with Section 902.

**Exception:** Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

# ICC A117.1 Section 1002.13

## Windows – Accessible Units & Type A Units

- 2003 ICC A117.1

**1002.13. Windows.** Where operable windows are provided, at least one window in each sleeping, living, or dining space shall have operable parts complying with Section 1002.9. Each required operable window shall have operable parts complying with Section 1002.9.

- 2009 ICC A117.1

### 1002 Accessible Units, 1003 Type A Units

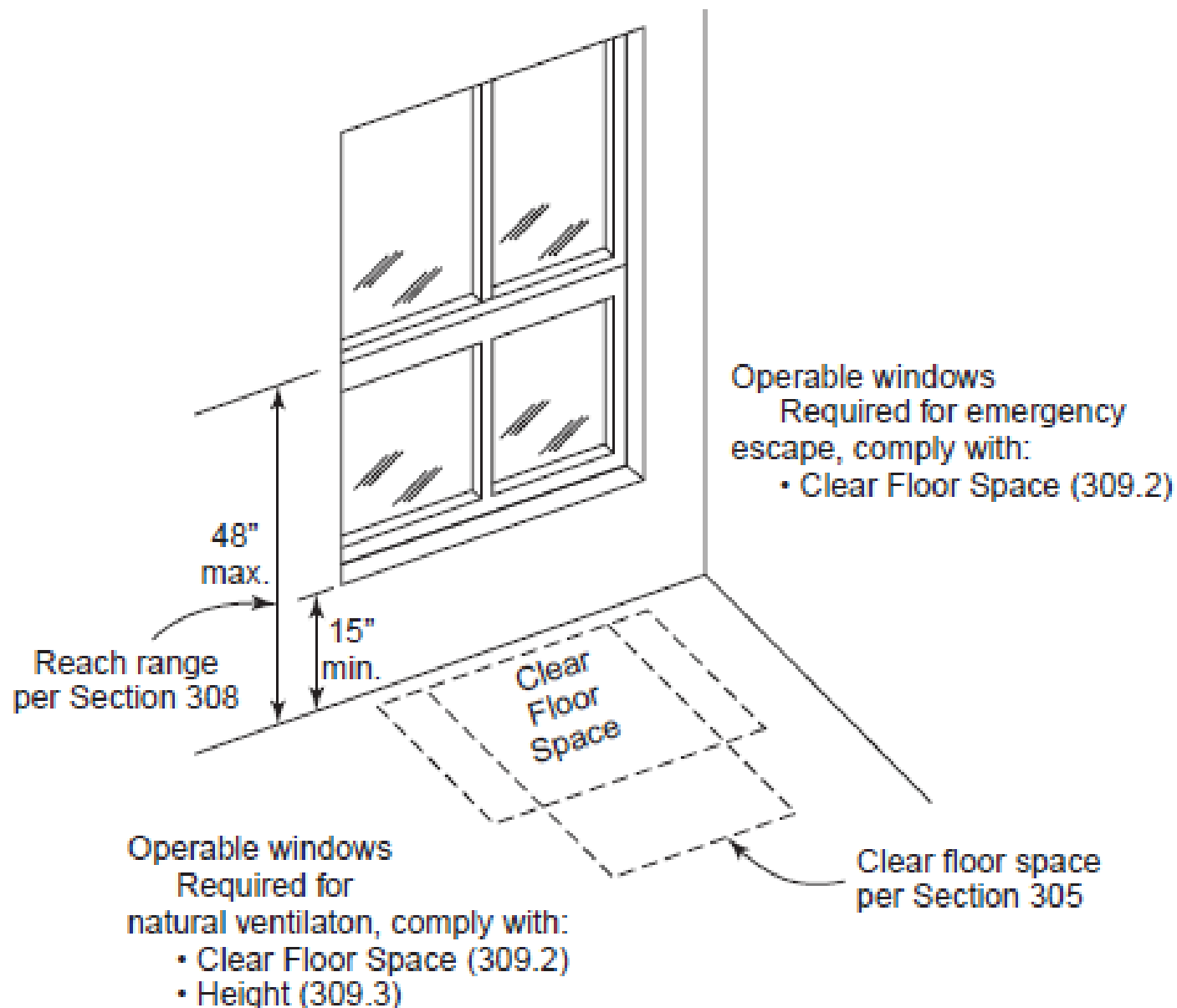
**1002.13 & 1003.13 Windows.** ~~Where operable windows are provided, at least one window in each sleeping, living, or dining space shall have operable parts complying with Section 1002.9. Each required operable window shall have operable parts complying with Section 1002.9.~~ Windows shall comply with Section 1002.13 & 1003.13.

### 1002.13.1 & 1003.13.1 Natural Ventilation.

Operable windows required to provide natural ventilation shall comply with Sections 309.2 and 309.3.

### 1002.13.2 & 1003.13.2 Emergency Escape.

Operable windows required to provide an emergency escape and rescue opening shall comply with Section 309.2.



# ICC A117.1 Section 1002.14, Storage Facilities – Accessible Units & Type A Units

## • 2003 ICC A117.1

### 1002 Accessible & Type A Units

**1002.14 Storage Facilities.** Where storage facilities are provided, they shall comply with Section 905. Kitchen cabinets shall comply with Section 804.5.

### 1003.14 Storage Facilities

- **1003.14.1 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a parallel or forward approach, shall be provided at each storage facility.
- **1003.14.2 Height.** A portion of the storage area of each storage facility shall comply with at least one of the reach ranges specified in Section 308.
- **1003.14.3 Operable Parts.** Operable parts on storage facilities shall comply with Section 309.

## • 2009 ICC A117.1

### 1002 Accessible Units

**1002.14 Storage Facilities.** Where storage facilities are provided, they at least one of each type shall comply with Section 905.

**Exception:** Kitchen cabinets shall not be required to comply with Section ~~804.5~~ 1002.14.

### 1003 Type A Units

~~**1003.12.5 Kitchen Storage.** A clear floor space, positioned for a parallel or forward approach to the kitchen cabinets, shall be provided.~~

**1003.14 Storage Facilities.** Where storage facilities are provided, they at least one of each type shall comply with Section 905 ~~1003.14~~.

**Exception:** Kitchen cabinets shall not be required to comply with Section ~~1003.12.5~~ 1003.14.

~~**1003.14.1 Clear Floor Space.** A clear floor space complying with Section 305, positioned for a parallel or forward approach, shall be provided at each storage facility.~~

~~**1003.14.2 Height.** A portion of the storage area of each storage facility shall comply with at least one of the reach ranges specified in Section 308.~~

~~**1003.14.3 Operable Parts.** Operable parts on storage facilities shall comply with Section 309.~~



# ICC A117.1 Section 1002

## Beds in Accessible Units

- 2003 ICC A117.1

No previous language regarding bed requirements in an Accessible Unit.

- 2009 ICC A117.1

### 1002 Accessible Units

**1002.15 Beds.** In at least one sleeping area, a minimum of five percent, but not less than one bed shall comply with Section 1002.15.

**1002.15.1 Clear Floor Space.** A clear floor space complying with Section 305 shall be provided on both sides of the bed. The clear floor space shall be positioned for parallel approach to the side of the bed.

- **Exception:** Where a single clear floor space complying with Section 305 positioned for parallel approach is provided between two beds, a clear floor space shall not be required on both sides of the bed.

**1002.15.2 Bed Frames.** At least one bed shall be provided with an open bed frame.



## ICC A117.1 Section 1003

### Clearance Overlap for Toilet & Bathing Facilities – Type A Units

#### • 2003 ICC A117.1

##### 1003 Type A Units

**1003.11.7.3 Overlap.** The required clearance around the water closet, associated grab bars, paper dispensers, coat hooks, shelves, accessible routes, clear floor space required at other fixtures, and the wheelchair turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

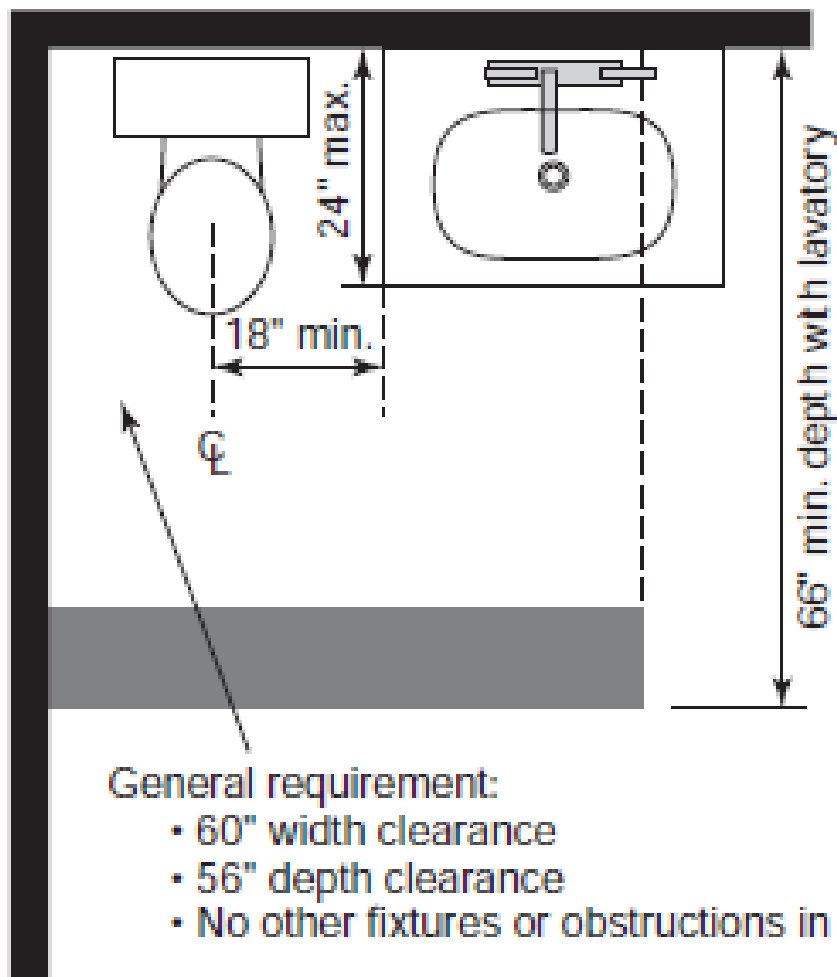
**Exception:** A lavatory complying with Section 1003.11.5 shall be permitted on the rear wall 18" minimum from the centerline of the water closet where the clearance at the water closet is 66" minimum measured perpendicular from the rear wall.

#### • 2009 ICC A117.1

##### 1003 Type A Units

**1003.11.2.4.4 Clearance Overlap.** The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, paper dispensers, coat hooks, shelves, accessible routes, clear floor space required at other fixtures, and the wheelchair turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

**Exception:** A lavatory measuring 24 inches (610 mm) maximum in depth and complying with Section 1003.11.2.2 shall be permitted on the rear wall 18 inches (455 mm) minimum from the centerline of the water closet to the side edge of the lavatory where the clearance at the water closet is 66 inches (1675 mm) minimum measured perpendicular from the rear wall.



#### Clearance overlap exception:

Lavatory permitted in clearance provided

- Lavatory depth 24" maximum
- 18" minimum from center line of water closet
- Clearance depth increased to 66" minimum

## ICC A117.1 Section 1003.11.2.5 Bathing Fixtures – Type A Unit

- 2003 ICC A117.1

**1003.11.1 General.** All toilet and bathing areas shall comply with Section 1003.11.9. At least one toilet and bathing facility shall comply with Section 1003.11. At least one lavatory, one water closet and either a bathtub or shower within the unit shall comply with 1003.11. The accessible toilet and bathing fixtures shall be in a single toilet/bathing area, such that travel between fixtures does not require travel through other parts of the unit.

- 2009 ICC A117.1

### 1003 Type A Units

#### 1003.11.2 Toilet and Bathing Facilities.

~~All toilet and bathing areas shall comply with Section 1003.11.9.~~ At least one toilet and bathing facility shall comply with Section 1003.11.2. At least one lavatory, one water closet and either a bathtub or shower within the unit shall comply with 1003.11.2. The accessible toilet and bathing fixtures shall be in a single toilet/bathing area, such that travel between fixtures does not require travel through other parts of the unit.

**1003.11.2.5 Bathing Fixtures.** The accessible bathing fixture shall be a bathtub complying with Section 1003.11.2.5.1 or a shower compartment complying with Section 1003.11.2.5.2.

## ICC A117.1 Section 1004 Type B Units

### Bathing Fixtures – Option A & Option B

- 2003 ICC A117.1
- 2009 ICC A117.1

#### 1004 Type B Units

##### Option A bathroom

###### 1004.11.3.1.3 Bathing Facilities.

Where a bathtub or shower compartment is provided it shall conform with Section 1004.11.3.1.3.1, 1004.11.3.1.3.2, or 1004.11.3.1.3.3.

##### Option B bathroom

###### 1004.11.3.2.3 Bathing Facilities.

Where either a bathtub or shower compartment is provided, it shall conform with Section 1004.11.3.2.3.1 or 1004.11.3.2.3.2.

#### 1004 Type B Units

##### Option A bathroom

**1004.11.3.1.3 Bathing Fixtures Facilities.** ~~Where a bathtub or shower compartment is provided it shall conform with Section 1004.11.3.1.3.1, 1004.11.3.1.3.2, or 1004.11.3.1.3.3. Where provided, a bathtub shall comply with Sections 1004.11.3.1.3.1 or 1004.11.3.1.3.2 and a shower compartment shall comply with Section 1004.11.3.1.3.3.~~

##### Option B bathroom

**1004.11.3.2.3 Bathing Fixtures Facilities.** ~~Where either a bathtub or shower compartment is provided, it shall conform with Section 1004.11.3.2.3.1 or 1004.11.3.2.3.2. The accessible bathing fixture shall be a bathtub complying with Section 1004.11.3.2.3.1 or a shower compartment complying with Section 1004.11.3.2.3.2.~~

# ICC A117.1 Section 1003.12.4.1

## Clear Floor Space for Kitchen Sinks

### • 2003 ICC A117.1

#### 1003 Type A Units

**1003.12.3.1 Clear Floor Space.** A clear floor space, positioned for a forward approach to the work surface, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. The clear floor space shall be centered on the work surface.

#### Exceptions:

1. The requirement for knee and toe clearance shall not apply to more than one bowl of a multi-bowl sink.
2. Cabinetry shall be permitted to be added under the sink, provided
  - (a) The cabinetry can be removed without removal or replacement of the sink,
  - (b) The floor finish extends under such the cabinetry, and
  - (c) The walls behind and surrounding the cabinetry are finished.

### • 2009 ICC A117.2

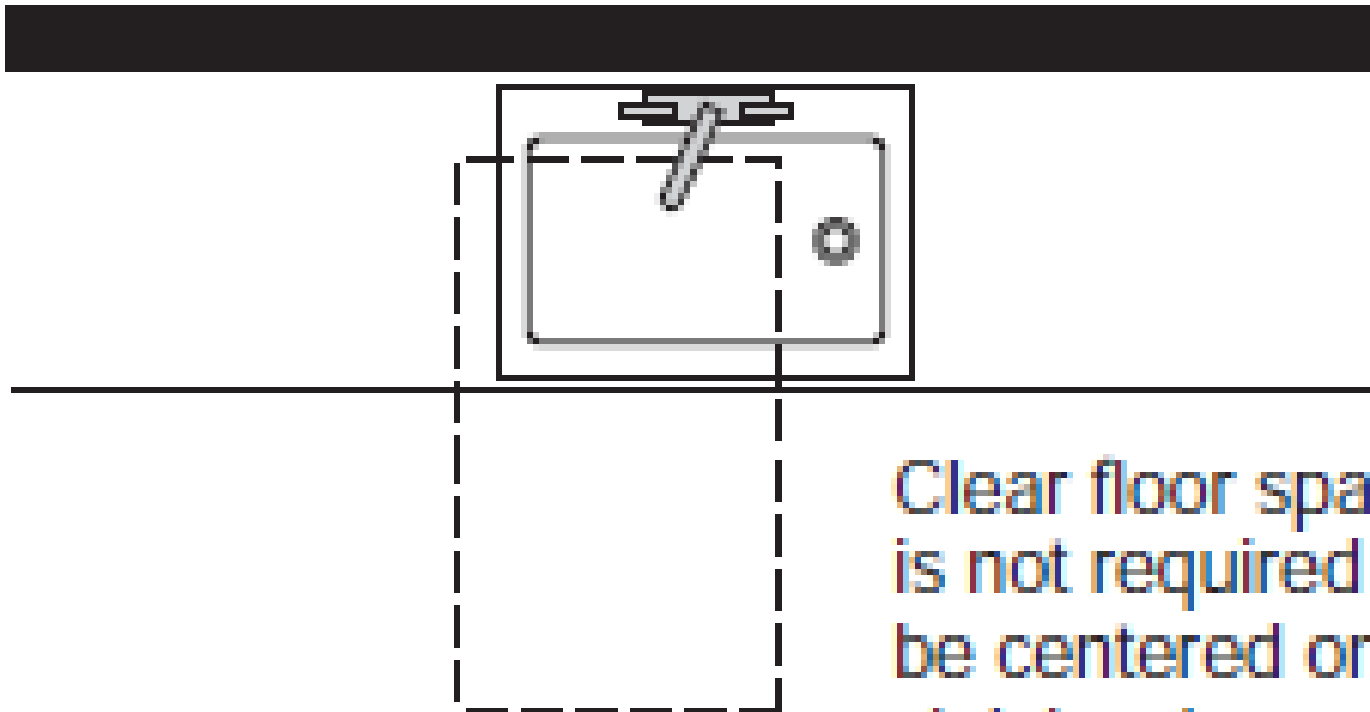
#### 1003 Type A Units

**1003.12.4.1 Clear Floor Space.** A clear floor space, positioned for a forward approach to the sink, shall be provided. Knee and toe clearance complying with Section 306 shall be provided. ~~The clear floor space shall be centered on the sink bowl.~~

#### Exceptions:

1. The requirement for knee and toe clearance shall not apply to more than one bowl of a multi-bowl sink.
2. Cabinetry shall be permitted to be added under the sink, provided the following criteria are met:
  - (a) The cabinetry can be removed without removal or replacement of the sink,
  - (b) The floor finish extends under such the cabinetry, and
  - (c) The walls behind and surrounding the cabinetry are finished.

## Kitchen in Type A unit



Clear floor space  
is not required to  
be centered on the  
sink bowl



# ICC A117.1 Section 1004.11.3.1

## Multiple Lavatories in Type B Unit, Option A Bathrooms

### • 2003 ICC A117.1

#### 1004 Type B Units

**1004.11.3.1 Option A.** Each fixture provided shall comply with Section 1004.11.3.1.

#### **Exception:**

1. A lavatory and a water closet in a room containing only a lavatory and water closet, provided the room does not contain the only lavatory or water closet on the accessible level of the unit.

### • 2009 ICC A117.1

#### 1004 Type B Units

**1004.11.3.1 Option A.** Each fixture provided shall comply with Section 1004.11.3.1.

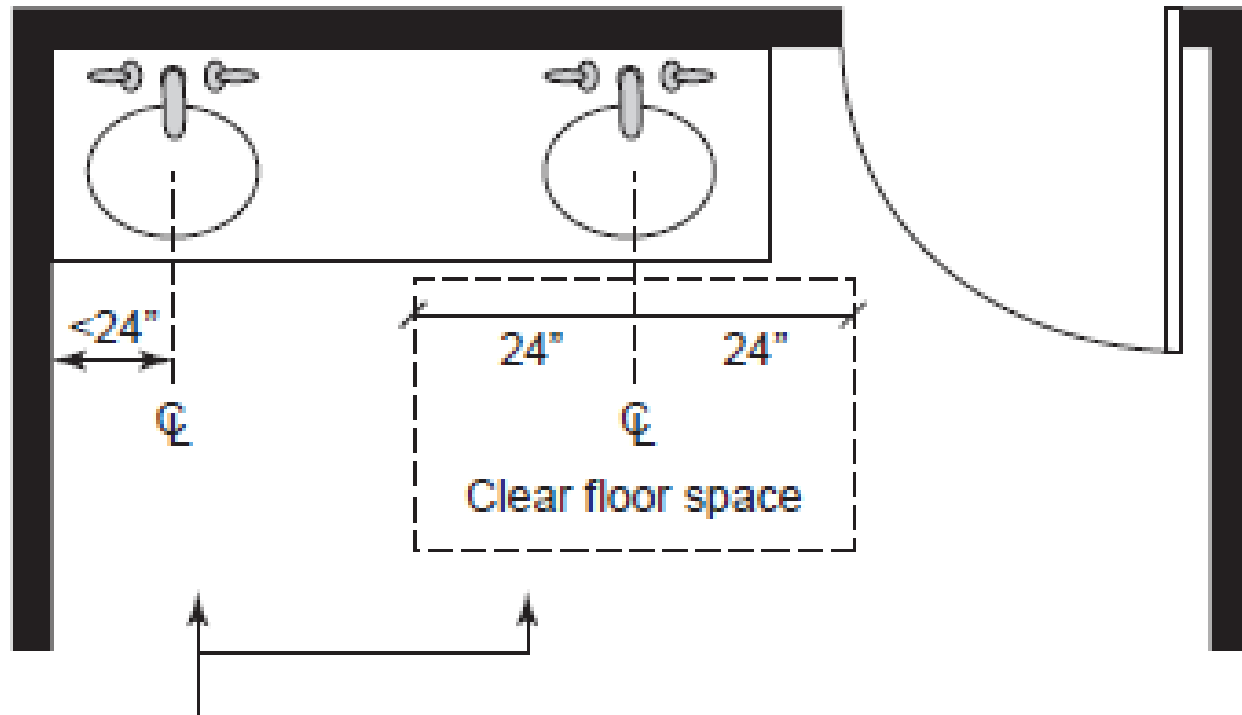
#### **Exceptions:**

1. Where multiple lavatories are provided in a single toilet and bathing area such that travel between fixtures does not require travel through other parts of the unit, not more than one lavatory is required to comply with Section 1004.11.3.1.

2. A lavatory and a water closet in a room containing only a lavatory and water closet, provided the room does not contain the only lavatory or water closet on the accessible level of the unit.

## Type B Unit - Option A Bathroom

General requirement: Each fixture must comply with Option A requirements



### Exception:

Where multiple lavatories are provided, not more than one is required to provide a clear floor space centered on the lavatory

# ICC A117.1 Section 1004.11.3.1.2

## Water Closets in Type B Units

### • 2003 ICC A117.1

#### 1004 Type B Units

**1004.11.3.1.2 Water Closet.** The lateral distance from the centerline of the water closet to a bathtub or lavatory shall be 18 inches (455 mm) minimum on the side opposite the direction of approach and 15 inches (380 mm) minimum on the other side. The lateral distance from the centerline of the water closet to an adjacent wall shall be 18 inches (455 mm). The lateral distance from the centerline of the water closet to a lavatory or bathtub shall be 15 inches (380 mm) minimum. The water closet shall be positioned to allow for future installation of a grab bar on the side with 18 inches (455 mm) clearance. Clearance around the water closet shall comply with Section 1004.11.3.1.2.1, 1004.11.3.1.2.2, or 1004.11.3.1.2.3.

**1004.11.3.1.2.1 Parallel Approach.** A clearance 56 inches (1420 mm) minimum measured from the wall behind the water closet, and 48 inches (1220 mm) minimum measured from a point 18 inches (455 mm) from the centerline of the water closet on the side designated for future installation of grab bars shall be provided. Vanities or lavatories on the wall behind the water closet are permitted to overlap the clearance.

**1004.11.3.1.2.2 Forward Approach.** A clearance 66 inches (1675 mm) minimum measured from the wall behind the water closet, and 48 inches (1220 mm) minimum measured from a point 18 inches (455 mm) from the centerline of the water closet on the side designated for future installation of grab bars shall be provided. Vanities or lavatories on the wall behind the water closet are permitted to overlap the clearance.

**1004.11.3.1.2.3 Parallel or Forward Approach.** A clearance 56 inches (1420 mm) minimum measured from the wall behind the water closet, and 42 inches (1065 mm) minimum measured from the centerline of the water closet shall be provided.

### • 2009 ICC A117.1

**1004.11.3.1.2 Water Closet.** The water closet shall comply with Section 1004.11.3.1.2.

**1004.11.3.1.2.1 Location.** The centerline of the water closet shall be 16 inches (405 mm) minimum and 18 inches (455 mm) maximum from one side of the required clearance.

**1004.11.3.1.2.2 Clearance.** Clearance around the water closet shall comply with Sections 1004.11.3.1.2.2.1 through 1004.11.3.1.2.2.3.

- **Exception:** Clearance complying with Sections 1003.11.2.4.2 through 1003.11.2.4.4.

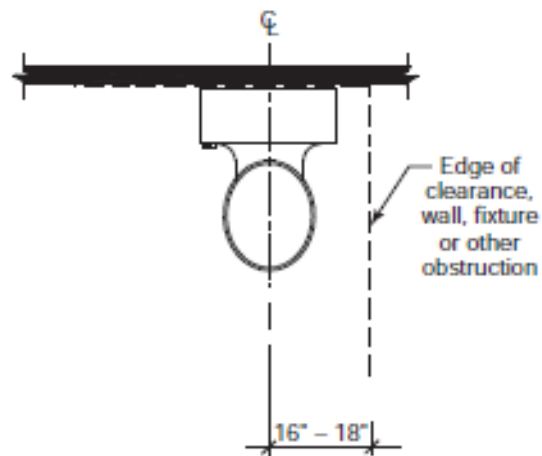
**1004.11.3.1.2.2.1 Clearance Width.** Clearance around the water closet shall be 48 inches (1220 mm) minimum in width, measured perpendicular from the side of the clearance that is 16 inches (405 mm) minimum and 18 inches (455 mm) maximum from the water closet centerline.

**1004.11.3.1.2.2.2 Clearance Depth.** Clearance around the water closet shall be 56 inches (1420 mm) minimum

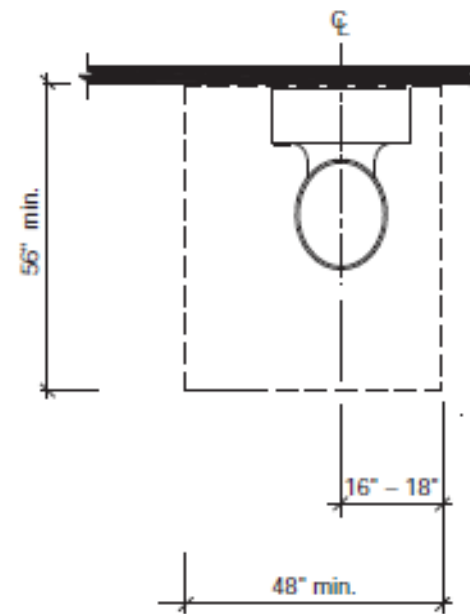
in depth, measured perpendicular from the rear wall.

**1004.11.3.1.2.2.3 Increased Clearance Depth at Forward Approach.** Where only a forward approach is provided, the clearance shall be 66 inches (1675 mm) minimum in depth, measured perpendicular from the rear wall.

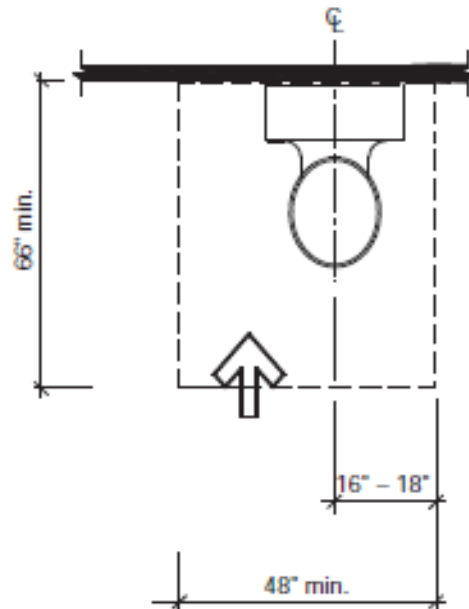
**1004.11.3.1.2.2.4 Clearance Overlap.** A vanity or other obstruction 24 inches (610 mm) maximum in depth, measured perpendicular from the rear wall, shall be permitted to overlap the required clearance, provided the width of the remaining clearance at the water closet is 33 inches (840 mm) minimum.



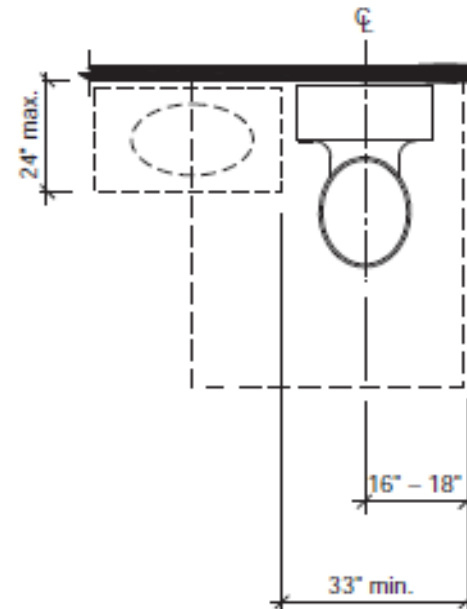
(a) Water closet location



(b) Clearance width and depth



(c) Increased clearance depth - forward approach



(d) Clearance with lavatory overlap

## **ICC A117.1 Section 1005 Type C (Visitable) Units**

- 2003 ICC A117.1
- 2009 ICC A117.1

None

### **1005 Type C (Visitable) Units**

- Requirements noted in 1005 are not applicable in WI.
- Provides technical requirements for single-family homes and townhouses.
- Accessibility requirements for dwelling and sleeping units noted in IBC Chapter 11 are required to comply with the requirements for Accessible Units, Type A Units, and Type B Units only per 2009 A117.1 Chapter 10.

# Accessible Units

- Type A

- Higher level of Accessibility
- Requires fully accessible Bathroom. Roll in showers.
- Requires Kitchen cabinets, counter and sink at accessible height
- Accessible route throughout the unit including to deck or patio
- Operable parts of the windows need to meet reach ranges.
- Have to meet reach range for switches
- All doors comply with 404, maneuverability for door adjacencies.

- Type B

- Not require grab bars but blocking in place.
- Can have a tub.
- Have to meet reach range for switches

# STRUCTURAL Chapters 16 to 25

- ASCE 7-10 replaces ASCE 7-05 for loadings
- Snow drift width and surcharge loading as additional items to be on plans by 1603.1.3
- Occupancy Category changed to Risk Category
- Stage floor loading increased (150 PSF)
- Assembly platform loading decreased (100 PSF)
- Snow drift on nearby buildings within 20 feet of taller roof (formerly 15')

- Wind design 1609 updated to ASCE 7-10 based on ultimate design wind speeds for strength level (similar to seismic load effects) Wisconsin now 115 mph / 120 mph / 105 mph (risk category)
- ASCE 7-10 wind is now in chapters 26 to 30 (General 26 and MWFRS 27, 28, 29 and Comp & Clad 30)
- Residential wind may use other standards, R2 and R-3 may use ICC 600
- Earthquake website reference updated to:  
<http://earthquake.usgs.gov/designmaps/us/application.php>



- **1809.5 frost protection exception: Area of 600 SF or less for light-frame construction or 400 SF for others in Risk Category I under 10' eave**
- **Added exception in SPS 362.1809(2) Floating slabs used with non-masonry, unheated, single-story buildings in Risk Category I that are less than 12,000 SF are exempt from the requirements for frost protection.**

- Concrete chapter 19 numerous provisions were deleted as they are contained in 2011 edition of ACI 318 standard
- Anchoring to concrete now found in 1901.3
- Masonry Design Methods chapter 21 also had numerous provisions deleted as they are now contained in 2013 edition of TMS 402/ACI 530/ASCE 5 or TMS 602/ACI 530.1/ASCE 6

- AISC 360(Steel) standard updated to 2010 edition
- APA standards to 2012 edition and AWC standards to 2015 edition (WFCM & NDS)
- 2308 conventional wood frame construction prescriptive reformatted, including wall bracing requirements
- 2309 Wood Frame Construction Manual permitted for Risk Category I & II subject to limits of AWC WFCM section 1.1.3

# Vapor Retarder

- Old SPS Language
- No SPS Language
- 2009 IBC Language
- IBC section 1405.3 requires vapor barriers to be installed on the interior side of framed wall assemblies.

# Vapor Retarder

- New SPS Language
- SPS 362.1405 (1)  
Substitute the following wording for the requirements, but not the exceptions, in IBC section 1405.3.1: Class I and II vapor retarders. Class I or II vapor retarders shall be provided on the interior side of frame walls and ceiling assemblies.
- 2015 IBC Language
- Same as 2009 Language

# IBC 2902 Toilet Rooms

- SPS 362.2902
- (1) Urinals may be substituted for up to **67%** of the required number of water closets in Group A and E occupancies.
- (1)2. **Other** reasonable alternatives for providing drinking water are acceptable as approved by the Department.
- (1)(e) Alternative to table 2902.1 **Actual** occupancy based on justification found reasonable to the Department.

# Sex designated Toilet Rooms

- New SPS Language



- 2015 IBC
- 2902.2.1 Allows two family (unisex) toilet facilities to be installed in an occupancy that requires only one fixture for men and one for women instead of two sex designated rooms.

# Hoistway Venting

- Old SPS Language
- SPS 362.3004 This is a department rule in addition to the requirements in the exception under IBC 3004.3: The manual override control shall comply with all of the following.
- 2009 IBC Language
- 3004: Hoistways of elevators and dumbwaiters penetrating more than three stories shall be provided with a means for venting smoke and hot gases to the outer air in case of a fire.



# Hoistway Venting

- New SPS Language
- 362.3002 (3) This is a department rule in addition to the requirements in section 3002: Where vent openings automatically open upon detection of smoke in the elevator lobbies or hoistway, upon power failure and upon activation of a manual override control, the manual override control shall comply with all of the following:
- Does not require Hoistway Venting
- 2015 IBC Language
- Hoistway venting is no longer required.

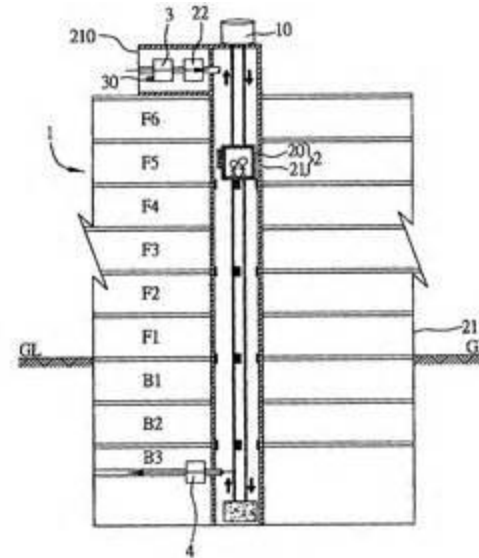


FIG. 1

# Chapter 35 Reference Standards

- Structural
  - ACI 318-14 – Structural Concrete
  - ACI 530-13 – Masonry
  - AISC 360-10 – Structural Steel Manual
  - AISI S100- 12 – Cold Formed Steel
  - ASCE 7-10 Minimum Design Loads
  - ANSI/AWC NDS – 2015 – Wood Construction

# Chapter 35 Reference Standards

- Fire
  - NFPA 13, 13R, and 13D – 2013 Sprinklers
  - NFPA 72 -2013 Fire Alarm Systems

# Chapter 35 Reference Standards

- ICC
  - ICC A117.1- 2009 Accessible Buildings
  - ICC 300 – 2012 Bleacher Standards

# International Existing Building Code

- 2015 IEBC



# 2015 IEBC

- The 2015 IEBC added a new chapter, Provisions for All Compliance Methods. Work Area Chapters, previous chapter 5-14 are now renumbered 6-15.

# IEBC Numbering

- 2009
  - Ch. 1-2 Administrative
  - Ch. 3 Prescriptive Compliance Method
  - Ch. 4 -12 Work Area Compliance Method
  - Ch. 13 Performance Compliance Method
  - Ch. 14 Construction Safeguards
  - Ch. 15 Reference Standards
- 2015
  - Ch. 1-2 Administrative
  - **Ch. 3 Compliance Methods**
  - Ch. 4 Prescriptive Compliance Method
  - Ch. 5 -13 Work Area Compliance Method
  - Ch. 14 Performance Compliance Method
  - Ch. 15 Construction Safeguards
  - Ch. 16 Reference Standards

# Upholstered Furniture

- Old SPS Language
- No SPS Language
- 2009 IEBC
- Upholstered Furniture not addressed in the 2009 IEBC

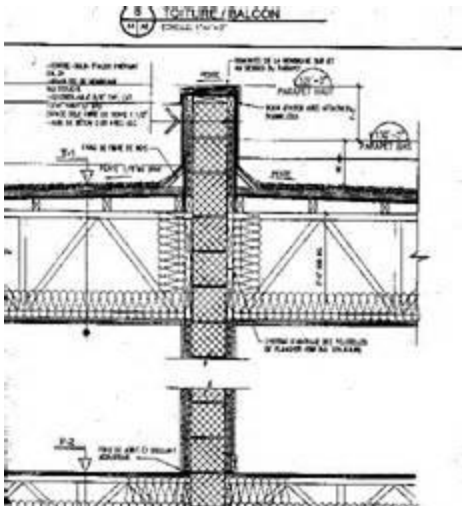


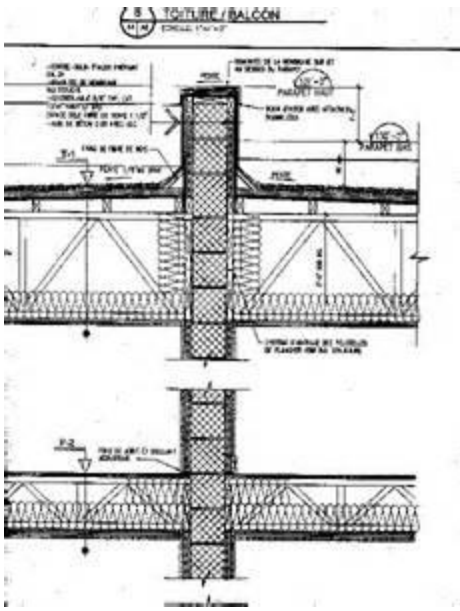


# Upholstered Furniture

- 2015 IEBC
- 904.1.3 would require work areas in a level three alteration to be protected with sprinklers when the work area will contain upholstered furniture or mattresses and exceeds the size limitations for the occupancies listed in this section.
  - F-1 exceeding 2500 SF
  - M exceeding 5000 SF
  - S1 exceeding 2500 SF

# Fire Wall Alternatives

- Old SPS Language
  - No SPS Language
- 
- The image is a technical architectural drawing showing a cross-section of a fire barrier wall. The wall is shown extending through multiple levels of a building, including a roof and floor slabs. The drawing includes various structural details such as reinforcement, insulation, and connections to the building's frame. Annotations in English and Spanish provide specifications for the materials and construction. Key labels include 'TUBULAR BALCON', 'CUBIC METER', 'FIRE RESISTANCE', and 'FIRE RESISTANCE RATING'. The drawing is a detailed technical representation of a fire barrier wall section.
- 2009 IEBC
  - 912.5.1 In other than groups H, F-1 and S-1, fire barriers may be used in lieu of fire walls so that a building can meet area limitations. The entire building would be required to be protected by a sprinkler system.



# 2015 IEBC

- SPS 366.0202
- Work area defined as area reconfigured with full height walls or area that has egress reconfigured, excludes incidental work.

# Thank you

## Any Questions?